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HAWAII'S TERRITORIAL SEA

G. Etzel Pearcy
Department of State

The territorial sea of the new State of Hawaii comprises 3,069 square miles of water, an area about five eighths as great as the land surfaces which it encloses. These statistics take into account an offshore zone of sovereign waters three miles in breadth as traditionally recognized by the United States. Actual measurement is effected by constructing a line which at all points is three miles distance from a normal baseline extending along the coast at the low water mark.[1]

Before the territorial sea of Hawaii could be plotted it was necessary to determine precisely which islands make up the State. The new State and the old Territory are not co-extensive; some of the more widely dispersed isles and atolls have been excluded from the State. The language of the Act establishing Hawaii as our fiftieth state is only partially definitive in delineating the area:

> "The State of Hawaii shall consist of all the islands, together with their appurtenant reefs and territorial waters, included in the Territory of Hawaii on the date of enactment of this Act, except the atoll known as Palmyra Island, together with its appurtenant reefs and territorial waters, but said State shall not be deemed to include the Midway Islands, Johnston Island, Sand Island (offshore from Johnston Island), or Kingman Reef, together with their appurtenant reefs and territorial waters."[2]

No identification of what would comprise the "Territory of Hawaii on the day of the enactment" is provided in the above statement.

A recent search through official documentation, facilitated by conversations and communications with Washington and Honolulu agencies has yielded what appears to be a sharp delineation of the State.[3] Put in somewhat simple terms, Hawaii, except for Midway, is made up of the chain of islands extending in a general ESE-WNW direction. Our new State extends for about 10 degrees of latitude north of 19° N. and about 23 degrees of longitude west of the 155° W. Even Texas does not span so many parallels and meridians. Eight major islands--most easterly of the chain--account for 99.72% of the land surface of the State of Hawaii. The Leeward Islands, as the western part of the chain is termed, have a land area estimated to total no more than 14 (nautical) square miles.

Several scattered islands lying generally to the south and west of Honolulu, such as Kingman Reef and Johnston Island were never firmly established as being or not being part of the Territory of Hawaii. Sources, including legal opinions handed down since 1893, were frequently contradictory. Fortunately for the sake of clarity four of these southerly islands under question have been eliminated by the Act establishing the State of

Hawaii. It is doubtful that other of the outlying islands were ever seriously construed as belonging to the Territory--Jarvis, Howland, Christmas, Malden, and others to the south of the main chain.

Another problem has been reference to a number of shoals, reefs, and banks as being in the Hawaiian group. For example, Dowsett Reef appears in lists as officially belonging to the City and County of Honolulu.[4] However, no land area can be identified, as the reef is "awash in places and is nearly always covered by breakers." Without the existence of a low water mark for cartographic reference there can be no territorial sea established. Moreover, it follows that such an area could not fall within the sovereignty of any state unless it chanced to lie within the territorial waters of a body of land possessing sovereign status in its own right. Five other areas of shoals and reefs described in conjunction with early voyages fall into the same category, including three very difficult to locate, if, indeed, they exist at all.

TERRITORIAL WATERS OF THE STATE OF HAWAII

ISLANDS	AREA* (NAUT. SQ. MI.)	BASELINE (NAUT. MI.)	AREA OF TERRITORIAL SEA (NAUT. SQ. MI.)
Hawaii	3,032.0	260.50	762.23
Maui & Kahoolawe	582.0	152.00	506.97
Maui 548.8 Kahoolawe 34.0			
Oahu	454.0	107.50	366.25
Kauai	418.0	82.75	274.31
Molokai	196.0	85.50	286.52
Lanai	106.0	42.00	157.27
Niihau	54.0	40.00	154.49
Laysan	2.3	4.50	37.12
Kure	0.6	3.00	33.77
Nihoa	0.6	2.75	33.48
Lisianski	0.6	2.75	32.72
Necker	0.5	1.75	31.41
Kaula	–	1.75	48.84
Pearl & Hermes Reef	–	–	133.41
French Frigate Shoals	–	–	154.08
Gardner Pinnacles	–	–	28.27
Maro Reef	–	–	28.27

*Area for five of the smaller islands or groups of islands not available or inconsequential.

With but few exceptions each island or cluster of rocky islets and atolls in Hawaii has its own territorial sea, separated one from another by areas of high seas. Each of the 17 islands or groups of islands listed in the accompanying table is surrounded by an independent area of territorial waters except Pearl and Hermes Reef, which has two such areas. In this low-lying island group there are individual islands sufficiently far apart to prevent the territorial waters from coalescing. In contrast Maui and Kahoolawe have a common territorial sea because they lie within 6 miles of one another. Situated between these two islands the small rocky islet of Molokini adds slightly to the area of the territorial sea by virtue of its

own baseline from which to measure.

The arrangement of the 8 main islands of the Hawaiian archipelago is such that 9 channels separate them one from another. Examples are Alenuihaha Channel between Hawaii and Maui, and Kaiwi Channel between Oahu and Molokai. Since only Maui and Kahoolawe are within 6 miles of each other, 8 of the channels are sufficiently wide to span the zones of territorial waters on either side and be traversed by areas of high seas. In some instances these narrows between territorial seas are less than 2 miles in width. The one of greatest breadth, Kauai Channel, lies between the islands of Kauai and Oahu where the high seas have a minimum extent of 57 miles.

Contrary to the situation found in most archipelagos, the principal islands are relatively free from small fringing or outlying islands. Except for Molokini, as mentioned above, only an occasional rocky islet lies offshore, and that only a matter of yards, or at most fractions of a mile. They do not add appreciably to the area of the territorial sea, and in no case do they extent U. S. sovereignty into inter-island channels. Two examples are Mokuania and Mokumanu islands off the northern coast of Oahu. Measuring the territorial seas of the Aleutian Islands, the Philippines, or the Fiji Islands is much more complicated than around the eastern Hawaiian chain.

West of the main group the Leeward Islands are not only much smaller in area but far more widely scattered. They stretch for more than 1,100 miles along the main axis of the archipelago whereas the 8 main islands cover a distance of but 350 miles. As a result, water expanse between the tiny islands or groups of islands are much broader, averaging 110 miles if, for the sake of illustration, Midway (U. S. sovereignty) is included. These stretches of water between relatively insignificant islands are without names, hardly to be considered as channels.

Palmyra Island, 870 miles distant from the nearest point of the main chain of the Hawaiian Islands, was not accepted as a part of the new State. Had it been otherwise, a stretch of 864 miles of high seas would separate two component parts of the State of Hawaii. Belonging to the City and County of Honolulu by virtue of the Land Registration Act of the Territory of Hawaii, 1925, Palmyra made Honolulu the most extensive city in the world, even exceeding Los Angeles. Recognition of this farflung municipality, county, and territory presumably could not be condoned as feasible for statehood, though future incorporation of Palmyra into Hawaii is not an impossibility.

One of the arguments against statehood for Hawaii reflected the noncontiguity of sovereign territory from one island to another. The existence of high seas between islands (and their territorial seas) was construed to imply a weakness in defense. However, concrete evidence on how the cleavages in sovereignty imperils our security was never brought forward. The same type of situation exists off the coast of California, Florida, and Rhode Island where offshore islands lie more than 6 miles from the mainland and have their own territorial seas, which in turn are surrounded by high seas.

Measurement of the territorial sea around small islands brings about land-water ratios far different than for measurement along a mainland coast, or even along the coast of a large island. It is safe to generalize that the smaller the island, the greater the proportion of territorial water to land surface. Examples of a geometrical nature abound in the Hawaiian Islands wherein size and shape set a pattern of offshore sovereignty highly disproportionate to the land area from which it is measured. Assuming an island to be circular it must cover a surface of 165 square miles to have a territorial sea of equal area. If larger, the island would exceed its territorial sea in size; if smaller the territorial sea would be greater. Gardner Pinnacles, two rocks in the Leeward Islands projecting above low water with an area of only a few square yards, have a territorial sea encompassing 28.27 square miles (or slightly more). This figure is nothing more than Pi r^2 with r = 3 miles. Given a scattered group of such rocks and the exaggeration may be multiplied many times. In the case of French Frigate Shoals, a crescent-shaped series of atolls, a total land area of only a few acres, has a territorial sea of 154 square miles.

The larger the island the smaller the proportion of sovereign waters offshore, but even Molokai with its 196 square miles has a territorial sea of 286 square miles. In this instance the extenuated shape of the island adds to the area of its territorial waters. Largest of the islands, Hawaii, exceeds its territorial sea in area by a ratio of about 4 to 1. To carry the principle even farther, the relation of Continental United States (excluding Alaska) to its territorial sea is 131 to 1.

Nevertheless, to return to the basic issue in the face of such fancy geometric examples, every point along the shores of Hawaii is exactly 3 miles from the high seas, and a vessel must steam (or sail) through just that much sovereign water to reach terra firma--or the outer limit of internal waters.

If the breadth of the territorial sea were to be extended to 6 miles by international law, land-water ratios among the Hawaiian Islands would be even more out of balance. A circular island would have to cover a surface of 660 square miles to be equal in area to its territorial sea, rather than 165 square miles as in the case of a 3-mile territorial sea. In the fragmented Leeward Islands even the smallest rock or atoll could have a territorial sea no smaller than 113 square miles. Thus, the sovereign waters around Gardner Pinnacles would be multiplied fourfold. Further, the islands of Maui, Molokai, Lanai, and Kahoolawe would possess a common territorial sea, leaving 4 open (high seas) channels separating the main Hawaiian Islands, whereas with a 3-mile territorial sea there are eight. It also follows that a 12-mile territorial sea would further increase the proportion of offshore sovereign waters to land areas. No island could have a territorial sea smaller than 452 square miles--4 times larger than that of a 6-mile and 16 times larger than a 3-mile territorial sea.

List of Footnotes

1. For detailed discussion of the principles of determining the extent the territorial sea in accordance with international law see: G. Etzel Pearcy, "Geographic Aspects of the Law of the Sea," Annals, AAG, Vol. IX (March 1959), pp. 1-23.
2. Hearings before the Subcommittee on Territorial and Insular Affairs of the Committee on Interior and Insular Affairs, House of Representatives, 85th Congress, First Session on H.R. 29, U. S. Government Printing Office, Washington, 1957.
3. Especially valuable help in defining Hawaii as a state was given to the author by Dr. John L. Taylor, Consultant on Territorial Affairs, Committee on Interior and Insular Affairs, House of Representatives.
4. Described in an "Index to the Islands of the Territory of Hawaii, 1931," prepared by the Surveyor, Territory of Hawaii (in manuscript).

VEGETATION MAPS IN GEOGRAPHICAL RESEARCH

A. W. Kuchler
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All over the world, Alexander von Humboldt is celebrated as the father of modern geography; he is also the recognized founder of plant geography. The extraordinary breadth of his interests made it inevitable that he should train his vivid imagination and his unusual power of observation on the innumerable forms and combinations of plant life in Europe and the "equinoxial regions" of America. As Humboldt was generally accepted as a geographer, his fundamental contributions to plant geography made this field an integral part of physical geography, and Gradmann, Schmithusen, Troll, Waibel and many other geographers attest to the vigor of the Humboldtian tradition to the present day, at least in his own country. These geographers and their many unnamed colleagues find their counterparts among botanists with a genuine geographical interest, such as Cain, Ellenberg, Gams, Gaussen, Hueck, Shreve, and Tuxen. Such men reveal the intimate intercourse between the two sciences of geography and botany, and it is not at all surprising that the great majority of them have contributed to our store of vegetation maps.

The vegetation map is logical meeting ground of the geographers and the botanists, and the study of vegetation or phytocenology has become an auxiliary science for geography, even as physical geography has assumed the same character for botany. Progress in one science has therefore been stimulating progress in the other. Geographers have shown a particular interest in the ecological aspects of plant geography. This is only natural since it is one of the tasks of geography to synthesize the geographical regions from data supplied by its auxiliary sciences like climatology, geomorphology, pedology, geology, and, of course, the study of vegetation or phytocenology.

Geographers consider vegetation an integral part of the landscape. Their approach to vegetation is therefore to study vegetation as a feature which gives an area its basic character and as a means to differentiate regions and their components of landscapes and landscape types. The study of individual species is usually of secondary interest to the geographers, a study which they readily leave to their botanical colleagues. But the results of botanical research in phytocenology have proved to be of great significance for geographical research, and it is quite inevitable that the work of botanists and geographers should overlap. Although their goals are not the same, it is always stimulating and beneficial for one to be well informed about the methods of the other.

The map is the geographer's most important tool, and he, more than anyone else will appreciate Schmithusen's (1942) observation of the particular advantage vegetation maps have over other maps. This great advantage consists in the fact that the mapper can in fact walk along the boundaries of every plant community and outline and establish the actual area occupied by a given vegetation type. This areal feature is unique because climatic maps, for instance, are based on data obtained at a limited number of points of observation. Similarly, geological and soils maps rest on inspections of occasional outcrops, drillings or borings. Topographic maps go beyond this by having contours extending the critical information from points to lines. Only the vegetation units are open to and based on areal observation. In any regional or landscape study, this is a significant advantage which has not been fully appreciated so far.

The difference between geographical and botanical research concerning vegetation is that phytocenology studies vegetation types as biological entities and for their own sake, whereas geographical research must endeavor above all to grasp and to express the various vegetation types or phytocenoses as components of the landscape. It is therefore of primary importance that vegetation types are arranged in physiognomic-ecological units which must be identifiable in the field. Wherever it is desirable and feasible, these units should be refined floristically, i.e., their divisions and subdivisions should be based on species combinations.

The use by geographers of plant-ecological information as revealed on vegetation maps is not limited to studies of the plant life in the landscape or to relating it to other branches of physical geography. The study of vegetation has been employed also to deepen various features of cultural or human geography, such as economic and historical geography, the distribution and density of population, and others. Such studies are equally fruitful in the simplest and in the most complex civilizations. For the primitive life and land-use of the Indians in the upper Amazon basin the distribution and character of vegetation types is about as vital as the cultural and semi-natural vegetation in Kansas or in Sweden is for the inhabitants of these countries.

The comprehensive study of the landscape or the region is the very essence of geographical research and gives the entire field of geography its unity and strength. No other field of science disputes this position, even though individual aspects of the landscape or region are examined by

a variety of other sciences (e.g., geomorphology, pedology, etc.). This comprehensive approach of geographical research implies that both the natural (physical and biological) features and the anthropogenic or cultural features are considered together and without prejudice. In a study of the cultural geography of a region the natural features reappear in new relations and combinations with cultural aspects that do not necessarily depend on them. In this new totality of the landscape, the natural and cultural vegetation plays an important role.

An ecotope is the smallest component of a landscape; it has comparatively uniform features throughout its area and hence a relatively uniform type of vegetation. Every ecotope implies a certain potential for plant life in general and for land-use (economic development) in particular. For each type of natural vegetation there are one or several crop types for optimal land-use. Man devotes his land to field crops, hay, pasture or forest but whichever he chooses, each of these will have certain ecological features that correspond to the type of natural vegetation on the site of which they occur.

At times, a map of the cultural vegetation can show the contrasts between ecotopes even better than the natural vegetation, as Schmithusen (1942, p. 139) has pointed out: the forest of an alder bog can merge rather imperceptibly with the forests on the adjacent drier sites. But in the cultural landscape, a meadow replaces the alder bog and then the moist site will contrast sharply with the surrounding forests or fields with their lower water table. As land-use becomes more highly developed, more complex and more carefully attuned to the physical and biological features of the landscape, the natural ecotopes are reflected in the cultural landscape with increasing clarity and in ever finer detail.

The insight into the landscape achieved through maps of natural and cultural vegetation can be deepened considerably by making comparative studies of two or more regions. For instance, in many respects the wormwood steppes of the Aralo-Caspian Plain are startingly like the Nevada sagebrush; the relations of the California chaparral to the Corsican macchia have been pointed out many times; the Paramos of the northern Andes reappear on the East African volcanoes, and the Dakota Prairie has its counterpart in the Ukraine. But such comparisons can be refined considerably by observing on the vegetation map just how the vegetation types are distributed in the region and how they can be related to soils, microclimate, topography and land-use. Comparative studies of this type result in a greater appreciation of the characteristic features of the geographical region and reveal new problems, stimulating research.

The geographer profits from vegetation maps of all scales. The small scale maps are largely synthetic maps compiled from a variety of sources, such as various maps of larger scale, the literature, reports, and observations. The task of small scale vegetation maps is to give a broad view. Through them it is possible to follow the major vegetation formations beyond the borders of a region and to trace their ties with neighboring formations. This fits a region into its proper place on the continent and even into the biosphere of our planet. The large scale maps, on the other hand,

show the details of the vegetation in defined units that can be observed in the field. The larger the scale, the more units can be differentiated. Here, then, is the key to the character of the ecotopes and their distribution. Even the finest variations in the landscape can be discerned with the help of the large scale vegetation map, as was well demonstrated by Friedel (1956). The geographer is here enabled to grasp the nature of his region because the ecotopes are the ecological units, the building bricks in the structure of the landscape. Their identification and extent, their distribution and character belong to the goals of every regional analysis because they are the essential standards of reference for a large number of geographical phenomena.

Maps of large scale, i.e., of small areas, are usually based on field work and have an important advantage over small scale maps. They can be adapted more readily to local needs and to express the features of the vegetation peculiar to a given region without having to fit them into a continental or world-wide scheme. Large scale vegetation maps show, therefore, a higher degree of individualism and flexibility than small scale maps and hence are more easily adjusted to a particular purpose, a given landscape, and to the originality of their authors.

Whatever its scale and purpose may be, an accurate vegetation map is essentially a significant geographical achievement. Indeed, Krause (1955, p. 48) emphasized that the greatest success in the interpretation and use of vegetation maps may be expected from one who possesses a thorough knowledge of the nature of vegetation and how, simultaneously, is a comprehensively trained geographer.

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ANIMATED CARTOGRAPHY

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The growing importance of audio-visual aids, widely recognized in education and industry, was officially acknowledged in the passage of the National Defense Education Act of 1958. Under this law a sum exceeding 18 million dollars is allocated, over a four-year period, for research and experimentation in the development of new and more effective audio-visual techniques and in training teachers in the use of such media. By the same

act further expenditure of federal funds is authorized for the acquisition of motion pictures, video tapes, filmstrips, slides, recordings and other auditory and visual materials and equipment by educational agencies.

Live-action motion pictures have been used with great success for a variety of instructional purposes in the armed services, as well as in schools and in industry. To illustrate processes which cannot otherwise be seen or which require simplification, animated drawings have been effectively utilized. Great liberties can be taken with timing in such movies; processes occurring over a long period can be speeded up while rapid motion may be slowed down permitting observation and comprehension of complex phenomena. The sound track, of course, is essential for maximum effectiveness in this method of mass communication.

Although in the past the animated drawing has been associated particularly with entertainment and advertising, it is being used increasingly for scientific illustration. Maps lend themselves particularly well to animation; by the use of this technique we can add another dimension to cartography--time. In an effort to combine the historical with the geographical approach cartographers have used what Andrew Clark has called, "instantaneous cross sections of area." (Three Centuries and an Island, Toronto, 1959, p. 222) Many examples exist of series of maps which show the distribution of particular phenomena at certain times, each map in the series being, in a sense, a snapshot. Although of great value, such maps can only suggest movements in the inter-snapshot periods. By the use of animated cartography we are able to create the impression of continuous change and thereby approach the ideal in historical geography, where phenomena appear "as dynamic rather than static entities." Distributions which seems to be particularly well suited to animation include the spread of population, the development of lines of transportation, the removal of forests, changing political boundaries, the expansion of urban areas, and seasonal climatic patterns. The value of animated cartography for illustrating the deployment of forces in battle, so inadequately shown by conventional maps of military strategy, is obvious. Films in which animated maps have appeared have been produced both by commerical firms and by universities. For example, a short map sequence illustrating the flooding of the Salton Sea area is included in the movie, The Coachella Valley made at UCLA.

Cartographers are familiar with many of the basic skills used in the preparation of animated motion pictures. Some of the essential materials for animation will be found in the cartographic laboratory, while other items of equipment can be improvised. The area, point and line symbols used on maps are relatively easy to animate.

As is well known, movement on the projection screen results from the eye retaining an image of an object, momentarily, after the object has been removed. If a series of objects is presented in rapid succession with the position of each slightly different from the preceding one an illusion of movement results. In an animated film the animator produces a series of drawings which are photographed on film, frame by frame; in sound films 24 frames are required for each second of projection time.

When these film images are projected at this speed, they are synthesized and the subject appears to move.

The first step in animation is the preparation of a script, a running commentary on the visual material. Script writing for motion pictures, which differs from both journalistic and scientific writing, calls for considerable verbal economy. Since the script is to be recorded and matched to the picture images, timing is of great significance. A precise time scale, for example one second of projection time equaling ten years of settlement, can be used in historical-cartographic films. To display the main visual action of the animation a few layout sketches (story boards) are prepared. The script is recorded on 16 mm. magnetic stock. On a form called a bar sheet, the time relation between verbal and visual elements of the film is correlated.

The cartographer next selects the map or maps to be used for background material. Full color shaded relief maps are especially suitable for this purpose. Color film allows more effective use of cartographic symbols, makes the movie more interesting, and costs only slightly more than black and white. A frame of sixteen millimeter film measures about 10.5x7.5 mm., the longer dimension being oriented in the horizontal direction and the shorter, vertically. The background map should be of a size proportional to these measurements; a usual size for the background of an animated presentation is approximately 12x8.6 inches. The same background map may be used throughout the movie or it may be changed, depending upon the subject matter.

Preliminary drawings are made on tracing paper over the background map, each sheet bearing a drawing on an image in a state of suspended animation. To ensure correct registry, so that smooth motion from one position to another is achieved, a device known as an animation desk is used. This is a specially-designed light table fitted with register pegs; all sheets of paper and plastic used for animated drawings have holes punched in them to fit these register pegs. An ordinary light table to which register pegs have been added is a good substitute for the animation desk. After the necessary preliminary drawings have been made it is usual to run a camera test on them, but if the action is relatively simple this operation is omitted.

The next step is to make tracings of the preliminary drawings on transparent acetate sheets; such drawings, because they are formerly made on celluloid, are known as "cels." Like the sheets of paper used for the initial drawings, the transparent cels have holes punched in them to fit exactly the register pegs on the animation desk. Correct registry must be maintained. Line work is drawn on the face of the cel but outlined shapes are filled in with opaque color painted on the back of the acetate to ensure an even application. Special inks and water soluble colors for use on acetate are available. After all the drawings have been traced on transparent cels and painted, the camera work begins.

It is usual to have the photography done professionally--there are a number of firms specializing in this work. To guide the photographer an exposure sheet (camera chart) is furnished by the animator outlining in

detail the sequence of the film. The cost of professional camera work for animated movies is about $12 an hour; since special lighting and equipment are needed as well as considerable skill, it is well worth the price.

The photographer attaches the background map to a frame fixed below a vertically mounted camera, this frame has register pegs with the same spacing as those on the animation desk. One by one each cel is then registered on top of the background and photographed. To maintain contact between the cel and the background a sheet of plate glass is placed over the cel. After the rolls of exposed negatives have been processed they are assembled in order. They are then matched to the sound track and a composite or married print, with sound and picture on the same film, is produced.

It is sometimes desirable to illustrate two different, simultaneous movements; for example, the expansion of a city area and population growth. This can be accomplished by using two cels for each exposure. It is not usual to employ more than four cels at one time. Because the addition of cels changes the background color slightly, the same number of cels is used over any one background even if in certain sequences some of them are blank. Visual "punctuation" of the film can be achieved by such techniques as the "cut," "mix," and "fade."

Animated maps are not a substitute for conventional static cartography, and for many purposes offer no advantages and some disadvantages. For illustrating the dynamic nature of certain areal relationships, however, this technique has already been used with success and has even greater potentialities. Audiences conditioned to animated performances through moving pictures and television are apt to find a series of static maps which attempt to illustrate changing phenomena, less than satisfactory. Multiple copies of a particular film, which may easily be produced from the master film, can bring the message to a wide audience. Another important advantage of animated cartography is that only the particular symbols required at any moment need appear on the map. The possibility of removing everything except the essentials greatly enhances the value of a map as a means of communication.

The cartographer can readily adapt his skills to the growing field of audio-visual education and gain sufficient knowledge to enable him to serve in an advisory capacity even though he may not choose to produce films. If he does not accept the challenge others, with less knowledge of the problems of mapping, will be the leaders in animated cartography.

GEOGRAPHIC THOUGHT AND DEVELOPMENT IN BRAZIL*

Hilgard O'Reilly Sternberg
Universidade do Brasil

A few years before the last war, French geographers began taking up residence in Brazil as visiting professors and, with a typical blend of scientific grounding and elegant presentation, fired students with enthusiasm

for geographical research and teaching. About the same time some U.S. geographers started taking a serious interest in Brazil. But there was no comparable policy to that which, for instance, has kept French geographers at the University of Brazil for 20 out of the 22 years since students first enjoyed Deffontaines' eloquent teaching in 1938. In addition to the part played by some U.S. geographers, it is relevant to notice the weight carried by German-born Waibel, whose strong personal influence, although limited to a small group of followers at the Conselho Nacional de Geografia, was enhanced by the fact that the field of agrarian geography, as he conceived it, has hitherto remained more or less fallow. In geography, as in other fields, Brazil tends more and more to be eclectic, a melting pot of scientific thought.

Thanks to the 1956 International Geographical Congress, a number of Brazilian teachers and investigators came into personal contact with the main stream of contemporary geographic thought, as represented by some 300 prominent visiting geographers. Following the Congress, 7 foreign scholars remained in Brazil to teach an intensive 6 weeks course to about 40 Brazilian university teachers. The Congress must also be credited with arousing a great deal of public interest in geography. This interest is essential if the scientific work of the geographer is to be understood and utilized by the administrator for the benefit of the community. And there is much scope in Brazil for work that is not only descriptive and explanatory, but also constructive. A few examples may be in order.

A problem common to the entire country is the wasteful exploitation of natural resources. Research regarding the processes involved in the depletion and removal of top-soil, for instance, is an indispensable basis for planning a stable form of land utilization. But stability does not depend on the physical basis alone, nor will it be automatically attained by the adoption of proper agronomic techniques. Other measures are required. Among them, agrarian reform is preeminent. Only it can promote, at one time, a substantial increase in farm productivity, the rise of an independent and self-reliant rural middle class and -- a condition for harmonious and solid industrial development -- the strengthening and expansion of the internal market. Now, an agrarian reform cannot be made on paper. Its success or failure will be determined on the land; the knowledge of the diversity of environmental conditions under which it is to occur will have to be fully considered. And is it not the geographer's task to study the contrasts and similarities of particular areas? I would even go a step further and say that his research is needed to explode the fallacy that a land reform is not necessary where so much land lies unclaimed in the interior. It is he, with his knowledge of differential physical and marketing potentialities, who must explain the paradox of land shortage where only 2% of the country's surface is planted to crops, and enlighten his fellow citizens about the fact that some sparsely settled lands are, in effect, poor.

In addition to such nationwide themes, a certain number of problem-areas in Brazil, as the dry Northeast or the superhumid Amazon region, need the geographer's attention.

Awareness of one's surroundings would seem to be a prerequisite for those hanging out the shingle of geographer. Brazil's environment is nothing if not challenging. An invitation for the development of geographic research is inherent in the vastness and variety of its tropical and subtropical territory, with areas long settled -- among the first, in fact, to be touched by European expansion -- and others waiting to be conquered and made fruitful. The most significant low-latitude transplant of what is known as western civilization, Brazil seems to offer a unique opportunity for sharpening the distinction between those difficulties which actually may be related to the tropical environment and those others that melt away as capital, managerial skills and technology take the field against underdevelopment.

Brazilian geographers, I am happy to report, are becoming more and more attuned to the regional variations played on universal themes; this is true of both the natural and the cultural landscape, although the latter, on the whole, has received far more attention than the former. I do not mean to say that Brazilian geographers are sufficiently equipped or numerous enough to deal with all the themes available. Some of the most challenging problems, for example, exist in the field of biogeography, and yet the number of Brazilians fully qualified to make original contributions in this field is exceedingly limited. There is no need to list the many sectors of geography where little more than pioneering work has been done. In some cases, the accumulation of new factual material soon may lead to further and deeper advances. Such is the case, for example, in the study of climate, where data gathered during the IGY is likely to result in a fuller understanding of the dynamics involved in the pattern of Brazilian climates.

Geomorphology leads the field in physical geographical studies. Renewed attention is now being given the polycyclical relief observed in the highlands of Brazil. Following James' 1933 paper, de Martonne recognized four erosion surfaces in the Southeast Atlantic Highlands. Although never abandoned by Brazilian and foreign geomorphologists, the problem seems to have received a new and perhaps decisive impetus from the recent work by Lester King, who refers the multitudinous forms to about half a dozen denudational cycles.

As the theme of Quaternary climatic fluctuations is broached, new perspectives seem to open up for the understanding of present-day landforms and distribution of vegetation. Perhaps one of the most interesting ideas in this line is that which, on geomorphic grounds, postulates a semiarid phase in Amazonia, immediately preceeding the present humid climates under which the rain forest expanded.

Within the scope of human geography, a first group of themes springs from the consideration of the Brazilian population itself. Immigration's contribution to the diversity of the cultural landscape and the effects of the phenomenal demographic revolution and of the spacial redistribution of the population are too obvious to be ignored. Thus, the spectacular growth of towns and cities no doubt is partly responsible for the emphasis placed on urban geography by so many of my Brazilian colleagues.

Urbanization is not only extremely rapid, but at the same time the effect of some and the cause of other dramatic social, economic and even political changes. If the study of some sleepy old town is largely historical geography, the mushrooming Brazilian metropolises represent an essentially dynamic theme, marked by diversification and multiplication of functions in these throbbing industrial and commercial centers, the development of satellite towns and cities, the brisk struggle for the rank of regional capital. The very approach to the urban phenomenon seems to be changing over the past few years. Studies confined to internal structure and pattern, to functional plan, are giving way to the more exciting investigations wherein the urban organism is considered as an integral part of a region, as in the Colatina study, recently carried out by the Associacao dos Geografos Brasileiros.

Urban growth and inflation-triggered real estate speculation has led to a wild and disorderly subdivision of good agricultural land in the fringe area of the cities. This diversion of farm land, far in excess of predictable requirements for housing, industry and roads creates a pressing problem, which, in the case of Rio de Janeiro, for instance, is being made the object of a significant geographic investigation.

Agricultural problems have also attracted the attention of geographers in Brazil. The complex causes and mechanisms of pioneer settlement, the possibilities of occupying grasslands as opposed to the traditional forest settlements, the agricultural capabilities of the cerrado and case studies of effective recuperation and resettlement of exhausted lands (a welcome change in a still predominantly predatory agriculture) are just a few of the major themes which suggest themselves.

The systematic study of settlement patterns, of l'habitat, is an important theme in the French school of geography. The inadequacies of concepts evolved from European situations become apparent when somewhat more detailed application is attempted to the Brazilian rural landscape. Some geographers, therefore, are engaged in drawing up a classification valid for Brazil and in correlating with agrarian structure the various subdivisions of the "scattered farmstead type" and the "agglomerated type" of settlement.

But this is not the only area in the cultural geography of Brazil where much work needs to be done. Opened $4\frac{1}{2}$ centuries ago to the great maritime routes, Brazil received plants, animals, men and ways of life of the most varied origins; many of the plants which today have become pantropical, in addition to conquering higher latitudes, originated in Brazil. Yet, although the theme of agricultural origins and dispersals has been inserted in the agenda of several national and international meetings, it is not yet possible to report substantial investigations along the lines marked out by Sauer.

The geography of industry and of transportation are other examples of fields that need a lot of additional plowing in Brazil. Some of these topics have been treated by economists, sociologists, and historians, lacking the geographical approach. I would add that Monbeig's idea of a "Geography of Investments" may prove a stimulating new theme, capable of bringing

out the geographic significance of the inflow of foreign capital in a rapidly developing country like Brazil.

Perhaps it is partly due to the provocative nature of the problems, but it is safe to say that Brazilian geography has made considerable strides in research. Such progress was not easy, for the traditional university organization had not been conceived in terms of scientific investigation. Perhaps one might even claim that many geographers are doing their little bit in promoting a change in the prevalent bookish mentality of the universities, by pressing forward, often with the aid of outside resources.

Research was also furthered by the Associacao dos Geografos Brasileiros, or A.G.B., now commemorating its silver jubilee. Every year, for about a week in the winter or dry-season vacations, the A.G.B. meets in a different locality, usually a smallish town. The emphasis of the gatherings is quite different from that of an AAG meeting. Members, arriving from various parts of the country, are bent, not so much on listening to papers, as on dedicating themselves, as a body, to a research project in the field. Splitting up into 3 or 4 field parties, they undertake commando-like sorties into different areas within the sphere of influence of the town chosen as headquarters. One group remains to study the urban problems. After 3 or 4 days, preliminary group reports are discussed. Subsequently elaborated and polished, the materials gathered during the Assembly are published in the Anais. In a country where so much territory is still virgin to the geographer, this type of work may provide the first insight into a given region or stimulate interest in some of its specific problems. Due to the relative isolation of the various centers of geographic work, it provides an opportunity for a cooperative undertaking where important exchange of ideas can take place. Young research workers are initiated into the niceties of teamwork and may face the fire of public criticism for the first time.

Geography does not show the same degree of progress in education as in research. Twenty five years have elapsed since it became established in Brazil as a university subject. In accord with the French tradition, geography in Brazilian universities for many years remained associated with history. Only in 1956, after a similar operation had been performed in France, were the Siamese twins separated in the 50 or so schools now in existence in Brazil. Geographic and auxiliary subjects included in the requirements for a degree in geography are now quite numerous. Geography courses, one should add, are required both for a degree in economics and in journalism, but the majority of candidates for a degree in geography itself are seeking to enter the teaching profession at the high school level. Although the first cracks are beginning to appear in the rigid centralization of the Brazilian secondary school system, curricula and programs are still identical for each and every student throughout the country. Geography has not been unfavorably treated, with 2 hours a week required in each of the 7 years of secondary schooling. The expanding school population is constantly creating new jobs for geography teachers, but this is perhaps not conducive to a strengthening of geography's privileged position in the secondary schools. Strengthening can only be won by

provocative teaching on the part of men and women who are themselves sold on the important role that geography can play in education. It is really somewhat disappointing that the formative value of geography has not been fully utilized and that many teachers, overloaded with classes, still limit themselves to the presentation -- often deficient and antipedagogical -- of its informative content. Periodical attempts to dilute geography into the so-called social sciences at secondary school level denote ignorance of the fact that geography already effects an integration of natural and social phenomena and cannot be unilaterally vinculated with social studies. But such attempts also show that the teaching of geography is still falling short of the challenge.

In conclusion, one may say that geography in Brazil as an area of specialization is in the early stages of its development. Introduced as a modern university subject a mere quarter century ago, obviously much remains to be done, but perhaps the very youthfulness of our field insures a fresh and vigorous 20th century approach to 20th century problems.

*Reference is made to the brief article published by the writer in The Professional Geographer, III, 3, July 1951, for certain details which will not be repeated here.

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ASSOCIATION AFFAIRS

Actions Recommended by the AAG Executive Committee
September 24, 1959

All members of the Executive Committee were present at a meeting in Washington, 10 a.m. to 5:15 p.m., September 24, 1959.

1. President Paul Siple opened the meeting with a brief discussion of the growing work load of administering the Association's affairs. He asked that all Officers and Council members give some serious thought to possible solutions for the problem of needs for increased staff and more adequate headquarters without increasing costs to the members.

2. Minutes of the April 1, 1959 Council meeting were corrected by shortening item 7c to the wording originally proposed at Pittsburgh. That item now reads:

> "With regard to requirements for the AAG Participation Fellowships to be granted in connection with the International Geographical Congress in Stockholm in 1960, it was decided that the contest should be open to all AAG members who shall not have reached their 36th birthday on the opening date of the Congress, who were members of the AAG or whose applications for membership were on file by March 30, 1959."

3. The Treasurer reported that expenditures during the first six months of 1959 exceeded budget estimates and that the rate of expenses must be reduced or the Association may have a considerable deficit in 1959. He suggested a review of investment policies and portfolios and urged strict economy to keep the Association within its income.

4. Commitments on future annual meetings were reviewed. They will be held at:

> Dallas, Texas, April 18-22, 1960
> East Lansing, Michigan, August 28 - September 1, 1961
> Miami Beach, Florida, April 22-25, 1962
> Denver, Colorado, April 5-9, 1964.

The Executive Committee considered invitations from Wayne State University to meet at Detroit and from the University of Michigan to meet at the Straits of Mackinac in 1965 but postponed decision until the first meeting of the new Council at Dallas. It was felt that the AAG should not be committed on the place and dates of annual meetings more than five years in advance. Some hope was expressed that an invitation might be received to hold the 1963 annual meeting at a readily accessible location such as New York City or Washington, D.C.

5. Action was postponed to the next meeting of the Executive Committee on a suggestion that the AAG establish a screening committee to review geographical material from Communist China and possibly seek outside financial support for abstracting, and in some cases, translating,

selected articles and publishing the results.

6. The Publications Committee has not yet named a new editor for The Professional Geographer or a new book review editor for the Annals. The Chairman of the Committee is, however, actively negotiating with some nominees for those positions which must be filled in the immediate future.

7. A recommendation from Past President Lester Klimm was approved for the free distribution through 1960 of The Professional Geographer and Annals to the Society for Visiting Scientists in London.

8. Approval was given for reproduction of a special supplement to the September issue of the Annals. It will be a 124 page report on "Man, Time and Space in Southern California." It will contain the papers and discussion about them presented at a panel session during the annual meeting in Santa Monica. Separate copies will be sold for $2.

9. Further consideration was given to the proposal for an enlarged or special issue of the Annals in connection with the I.G.U. in Stockholm. January 15, 1960 was established as the latest satisfactory date for papers to be submitted in complete and final form to the Editor of the Annals if they are to be reproduced soon enough for shipment to Stockholm and distribution to geographers registering there.

10. The Executive Committee approved the negotiation of a regular contract for the employment of Mrs. Yetta G. Sternfeld as Manager of the AAG Central Office.

11. The next meeting of the Executive Committee will be held in Washington, November 14, 1959.

AAG Research Grants Available

The AAG is anxious to support original research, and administers two funds from which grants may be made upon the recommendation of a Research Grants Committee. The Atwood Research Fund is limited to projects in physical geography. The General Research Fund can be used for projects in any aspect of the discipline.

Applications for financial support should be sent in triplicate to the Chairman of the Research Grants Committee, Professor G. Donald Hudson, Chairman, Department of Geography, University of Washington, Seattle, Washington. Such applications should indicate: (1) the nature and purpose of the proposed research, (2) the form in which the results of the proposed research will appear (article, professional paper, etc.), (3) work already accomplished in the area represented by the proposed research, including publications completed or in process, (4) the specific activity or operation the requested fund will support, and (5) the date on which the requested fund is needed. Although grants up to $1,000 have been authorized from each fund, the common practice has been to make more numerous grants of smaller amounts.

Placement Committee

October marked the first anniversary of the Placement Committee's "Jobs in Geography" (JIG) publication. JIG is mailed to all AAG members who have registered with the Committee and filed a "Placement File Data" card. Approximately 300 members now are registered with the Committee.

Response to JIG has been enthusiastic. This enthusiasm along with the cooperation of practically everyone the Committee has contacted has been a strong piller of support and encouragement for this hard-working Committee. During this first year, 68 new and different jobs were listed in JIG. Job distribution was in the following fields:

Teaching	40
City and State Government	18
Federal Government*	6
Private Companies	4

*Federal jobs listed were actual openings. In addition to these, 20 different civil service exams open and of interest to Geographers were listed.

It is the belief of the Committee that JIG has not only been of service to AAG members seeking jobs and advancement, but that JIG has also stimulated in some small way a general interest in geography and in the AAG.

In order to make better known the function of JIG, the Committee recently wrote to a number of Geography Departments in colleges throughout the United States. Some excerpts from the replies will be of interest and also may give ideas of how JIG can be used.

> "...it does emphasize the possibilities in the field of geography. Having such a publication available gives me considerable help in suggesting the opportunities for employment. I am going to mention this in our publication ... which we get out twice a year particularly for the teachers of geography in the state...."
>
> "It is valuable to us in the academic profession to be able to have something available such as you are putting out to show to prospective majors in geography as well as those that are near the completion of their academic careers."
>
> "...the posting of a job listing is a great incentive to majors and a valuable device in winning converts to geography."
>
> "...would appreciate having the information for use: (1) in connection with placing graduate students and (2) in answering the frequently raised general question of what is going on in the 'job' situation."

Suggestions which will improve JIG are welcomed by the Committee.

---William Whipple Abbe, Chairman
Placement Committee

International Fellowships and Research Grants

The three following fellowship programs have closing dates which fall within the next few months. For further details see the International Fellowships note in the May issue of The Professional Geographer and the tenth edition of the UNESCO publication Study Abroad.

American Association of University Women. Fellowships and Grants for Women. Closing date for application, December 1, 1959.

National Science Foundation. Postdoctoral Fellowships. Closing date for application, December 22, 1959.

National Science Foundation. Graduate Fellowships. Closing date for application, January 1, 1960.

It is planned to have a panel discussion at the Dallas meeting to deal with the problem of international fellowships and grants for geographers.

Three additional sources of international fellowships are detailed below.

Joint Committee on Latin American Studies. A new Latin American grant program under the auspices of a joint committee, appointed by the Social Science Research Council and the American Council of Learned Societies, is supported by the Carnegie Corporation of New York. Apply to Social Science Research Council, 230 Park Avenue, New York 17, New York.

Candidates for awards under this new grant program must be citizens or permanent residents of the United States or Canada and must have received a Ph.D. degree or its equivalent, but previous work in Latin America is not a prerequisite. While grants will be applicable to studies relating to any part of Latin America, research proposals relating to Brazil will receive particular attention. Stipends range from small grants-in-aid up to larger grants which will be equivalent to salary plus travel expenses. Closing date, January 4, 1960.

Canada Council. Address: The Secretary, The Canada Council, 140 Wellington Street, Ottawa, Canada.

Fellowships carrying a stipend with an average value of $2,000 plus travel allowance are available for study at a Canadian university. No restriction on eligibility reported. Closing date for application, January 15, 1960.

Charles and Julia Henry Fund. Office of the Secretary of Yale University, New Haven, Connecticut.

Candidates for the Henry Fellowships are to be unmarried American citizens. Preference is given to graduate students who are recent recipients of the bachelor's degree. Fellowships are tenable for a year of advanced study or research at either Oxford or Cambridge Universities. Stipends are 800 pounds (about $2,000) a year. The closing date for application is January 15, 1960.

---Donald Patton and Walter Deshler

ANNOUNCEMENTS AND REPORTS

Symposium on Quantitative Terrain Studies

A joint session of the AAAS Section E (Geology and Geography) and the Geological Society of America will be held during the AAAS 126th Annual Meeting, in Chicago, 26-31 December 1959. The program for the joint sessions is a 2-day Symposium on Quantitative Terrain Studies arranged by Charles R. Kolb, Jack R. Van Lopik, and Warren E. Grabau of the U. S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

The investigation of geomorphic and other terrain attributes by quantitative methods has developed in recent years into a new and apparently fruitful scientific specialty. Quantitative methods of analysis have been applied to geomorphology with singular success, yielding much important information regarding the nature and intensity of many natural processes. The literature of this new field, however, is so diffused among journals of many scientific complexions that there is danger that some work will be duplicated, and that some areas will remain unexploited or even unrecognized. In an attempt to avoid these hazards and to encourage exchange of ideas and experiences, the Symposium on Quantitative Terrain Studies has been arranged. More than 20 contributions, including several by European workers, have been scheduled for presentation. In general, the papers fall into three categories: (1) those dealing with terrain analysis for specific purposes (military, agricultural, hydrologic, etc.), (2) those in which emphasis is on geomorphic and other processes or factors which control the evolution of landscape, and (3) those dealing with equipment or techniques for measuring specific terrain factor or parameter values. It is believed that this symposium is the first, or at least the most ambitious, program of this type to be held in the United States.

---Jack R. Van Lopik

Participation by Geographers at the Annual Meeting of the African Studies Association

The second annual meeting of this new professional society, which is basically a group of scholars engaged in work involving Africa, was held at Boston University, September 7, 8, and 9. Its orientation can be gauged from the frequently repeated assertion of members that they are primarily anthropologists, economists, geographers, etc., who happen to work on problems in African locales, and that they are not omniscient "African Specialists." For membership information write to Professor L. Gray Cowan, Secretary African Studies Association, Columbia University, 409 W. 117th Street, New York 27, New York.

Geographers participated at two points in the program. William Hance of Columbia University gave an invited paper in the main plenary session. The general topic for the session was "The Processes of Fragmentation and Consolidation in Sub-Saharan Africa." Professor Hance treated the geographic and economic implications of political fragmentation and consolidation of African territories. He included in the paper the problem of rationalization of transport in West Africa given the changing status of the French overseas territories. Other papers in the session were given by an anthropologist and several political scientists.

Each of the disciplines represented had a panel discussion. The Geography section dealt with the subject "Geographical Field Work in Tropical Africa - Some Problems." It was chaired by Walter Deshler of the University of Maryland. The participants were Irene Van Dongen of Columbia University, Clarke Brooke of Portland State College, Wallace Dierickx of Chicago Teachers College, and Hibberd Kline of Pittsburgh.

The session opened with Irene Van Dongen's treatment of the pitfalls to be avoided and the procedures followed by geographers engaged in field studies in tropical Africa. She discussed the problems of establishing contact with government and commercial officials, who might be in a position to facilitate one's studies. She emphasized the lack of reliability of map and statistical information and the additional labor faced by students of African affairs because of this inadequate background information.

Clarke Brooke discussed first the problems of the facilities for field work in Ethiopia. These included dealing with rudimentary local transport, government officials and suspicious local peasants. He went on to give a useful "Atlas of Ignorance" of problems intriguing to the geographer in Ethiopia. Among these were matters of physical geography including landform development and climatology; cultural matters such as the impact on exchange of goods of the decay of the once extensive Italian road system; problems of vegetation change associated with annual burning of fields; problems of changing subsistence patterns among the Galla tribes.

Wallace Dierickx analyzed the merits and demerits of a government affiliation for the geographical field worker. He enumerated the advantages in terms of facilities provided by government for affiliates, which on occasion have included air photographs, free analysis of soil samples, and free local transport. He cautioned against the price of this service from some but not all contemporary governments in Africa. Conrad Reining, anthropologist, spoke to the same point from the anthropologist's view. He stressed the need to blur one's association with government when dealing with African peoples, who may be suspicious of government at the local level. Nearly everyone present joined in the discussion and it was evident that strong views are held by geographers on this matter. A fear of being compromised by government affiliation was repeatedly expressed.

Hibberd Kline, using the title "The Kernel and the Pericarp," made an analogy to the African oil palm nut in discussing past geographical studies on Africa. He asserted that most of the studies to date, while useful, have been superficial, easily done, "pericarp" studies. These include resource inventories, essentially descriptive village studies, etc. There

have been few studies in depth involving the more difficult questions, the "kernel" studies. A discussion of this point followed. The meeting ended on a note of professional self-examination stimulated in part by the pointed questions of several anthropologists present who had apparently been reading the geographical literature.

---Walter W. Deshler

Peruvian Field Course in Geography

The first Asamblea Regional de Geografos del Peru, held July 28 to August 6 in the valley of the Mantaro in the central Sierra near Huancayo, was organized by the Asociacion de Geografos (Egresados, i.e., graduates, del Instituto de Geografia de la Universidad Nacional Mayor de San Marcos) in Lima, and was attended by 19 students and teachers. The basic purpose was to provide an opportunity to do field work, an experience heretofore restricted only to occasional, rapid excursions. The Peruvian adaptation of a field course turned out to be an interesting combination of meetings, excursions, and detailed field work. The assembly had as its central theme the investigation of a proposal that the 12 districts lying west of the Rio Mantaro in the Province of Huancayo, department of Junin, should be separated and formed into a new province. This theme, of course, drew widespread interest, especially within the immediate region. Several of the towns of the zone quickly claimed special advantages as locations for the capital of the prospective province. Site of the assembly was Chupaca, a town of approx. 5,000 inhabitants, the largest in the zone west of the Mantaro. Capital of the entire province of Huancayo is the city of Huancayo (est. pop.--50,000; elev. approx. 10,500 ft.), principal center of the central Sierra. Dormitory accommodations were provided by the Regional Normal School of Chupaca, and the Municipality of Chupaca furnished a bus for transportation from Lima and for the field work. The Municipality and the Institute of Geography jointly paid for food and transportation costs.

The assembly was inaugurated July 28th, the anniversary of national independence, with special civic ceremonies (band concert, mass in the open air in the central plaza, patriotic speeches, and parade) and meeting and reception at the city hall. During the morning of the second day, a number of papers were presented by students and professors at a plenary session. The number of papers submitted was large and discussions were long; consequently, an evening session had to be scheduled, because the afternoon was occupied by an excursion to three districts. The papers, including 3 presented by citizens of Chupaca, were entitled: "How we can start weather observations?" "The census of 1960 and the map of Peru with district political divisions," "The training of geography teachers in Peru," "Is geography useful?" "The geography curriculum in secondary education," "Photography course in the Institute of Geography," "Preparation of a course for the study of military geography," "Geography and the creation of the province of Chupaca," "Necessity of a plan for urban

improvement of the city of Chupaca," and "Socio-geography: crossing of races (mestizaje) in Chupaca." The following morning was devoted to talks by the organizers of the course, Prof. Pedro Herencia, President of the Association of Geographers, and Prof. Efrain Orbegoso, President of the Organizing Commission of the Assembly, a talk on urban geography by Dr. Donald R. Dyer, Fulbright Lecturer; and a discourse by Dr. Davila on "Scientific Investigation and the Development of Peoples." A cartographic exhibit consisted of maps of topography, hydrography, geology, natural regions, population, generalized land use, and political subdivisions of the zone to be studied. The maps had been compiled and drawn in the Institute from data from sheets of the Carta Nacional, census reports, and other sources.

July 31 to August 5 was devoted to a combination of excursions to all parts of the province and individual field studies. Each student had selected a special topic for study, some of which were related to thesis work. Interests ranged widely, including climatology, geomorphology, economic geography, and human geography. For the most part, students followed their own particular interests, making many notes and sketches, there being little attempt to make comprehensive studies of areas or regions or to make detailed maps of land use or of physical conditions of the land. The general character of field work was that of a reconnaissance nature with considerable attention being given to interviews to obtain statistical data and information on toponomy. Throughout the field work, several citizens of Chupaca accompanied the group and aided by facilitating contacts in the nearby towns and by providing local information and knowledge of agriculture of the region.

On the last day of the assembly, a plenary session was held and preliminary reports were made on several aspects of the field work, including a report on the climatology of the region based on daily field observations and on statistical data obtained from records at the nearby Institute Geofisico de Huayao, and reports on the agriculture of the region and on the city of Chupaca. The president of the organizing commission made a comprehensive report of the entire assembly, including significant comments on the geographic reality of the region. Among the resolutions approved was a recommendation favoring the establishment of the new province on the basis of resources, population, and other factors. Final reports of the several aspects of the field course-assembly are scheduled to be published in a forthcoming booklet in the series of publications issued by the Association of Geographers of Peru.

---Donald R. Dyer

British Association for the Advancement of Science
Section E (Geography)

Geographers from North America visiting Europe for the I.G.U. Conference in Stockholm in August 1960 may be interested to widen their acquaintance with their British geographical colleagues by attending the

meeting of the British Association for the Advancement of Science in Cardiff from August 31 to September 7, 1960. The members of Section E (Geography) of the Association will welcome visitors at their discussions. A program of papers will be read representing recent research in geography by British geographers. In addition, field excursions will be arranged in South Wales, including the South Wales coalfield and industrial region.

The President and Committee of Section E extend a warm welcome to all American geographers to attend the meeting, and hope that some will offer papers for reading at Cardiff. Anyone wishing to read a paper should notify the Recorder of Section E, Professor M. J. Wise, London School of Economics and Political Science, Houghton Street, Aldwych, London W.C. 2., before December 31, 1959. General information concerning the British Association can be obtained from Sir George Allen, British Association for the Advancement of Science, 18 Adam Street, Adelphi, London W.C. 2.

Soviet Union Tour

Geographers planning to attend the 19th International Geographical Congress in Stockholm, Sweden, August 6-12, 1960, and who would be interested in a three or four week tour of the Soviet Union are requested to write to Aloys A. Michel, Department of Geography, Yale University, New Haven, Connecticut, specifying: (1) whether they would desire such a tour to precede or to follow the Stockholm meeting; (2) whether they would be willing to devote four weeks to the tour if this were necessary in order to include Soviet Central Asia in the itinerary.

AAAS Meeting
Chicago, December 26-31

Geographers will be interested in the AAAS meeting at Chicago in December, particularly the sessions of Section E (Geology and Geography). The AAG will sponsor two sessions, both on Tuesday, December 29. Of special interest is a symposium on the geographer's role in transportation studies. The panelists (E. Wilson Campbell, Garred Jones, John R. Hamburg and Robert Sharkey) are members of the staff of the Chicago Area Transportation Study. Some of them helped prepare a similar study at Detroit and are consultants on the Pittsburgh Study that is just getting under way. Edward Taaffe of Northwestern is chairman of the session. The Tuesday afternoon session is devoted to papers on Southwest Asia (and Egypt) with contributions by Charles Reed (University of Illinois Professional Colleges), Herbert E. Wright, Jr. (Minnesota), Marvin Mikesell (University of Chicago) and Karl W. Butzer (Wisconsin).

The Illinois Geographical Society will sponsor a Monday morning session entitled "Economic Change in Undeveloped Areas." Robert Carmin

(Illinois), Floyd Cunningham (Southern Illinois), Robert O. Johnsrud (Northwestern), Helen Smith (Wheaton) and Alden Cutshall (Illinois) will treat certain aspects of the general subject in Brazil, Egypt, Nigeria, Thailand and the Philippines, respectively.

There will be an inter-section treatment (three sessions) of the Great Lakes Basin, with geographers, geologists and engineers participating. These sessions will be held on Wednesday and Thursday.

Section K (Social and Economic Sciences) has planned a symposium entitled "World Population and International Relations" for Tuesday evening.

Some of the sessions sponsored by the Geological Society of America will appeal to geographers, two on Pleistocene stratigraphy (Tuesday) and three on quantitative geomorphology (Sunday and Monday), for example. /See p. 22 of this issue for report on Symposium on Quantitative Terrain Studies/

The annual illustrated lecture from the National Geographic Society is scheduled for Wednesday evening and the annual Section E smoker is Tuesday evening.

All Section E sessions are scheduled in the Hamilton Hotel.

---Alden Cutshall
Coordinator for Geography, AAAS

Special Issue of the Annals for the XIX International Geographical Congress

Papers for the XIXth International Geographical Congress should also be submitted in complete and final form to the Editor of the Annals by January 15, 1960. Those which meet standards for the Annals and which are accepted for presentation at the meetings in Stockholm are to be published in a special or enlarged issue of the Annals which the AAG hopes to complete in time for shipment and distribution at the XIXth International Geographical Congress.

Geographical Excursion in England

It has been suggested by the Institute of British Geographers that some American colleagues who will attend the IGU meeting at Stockholm in 1960 may wish to see something of Britain and meet British geographers. The Council of the Institute would be interested in learning how such a visit by American geographers can be made as profitable and enjoyable as possible.

If the demand warrants, the Institute of British Geographers would be glad to organize and provide leaders for some tours of about a week's duration by motor coach starting from London. University centers would be visited and opportunities would be provided for seeing, under expert leadership, a wide range of landscapes and features of special interest to geographers. In this way it would be possible to have American geogra-

phers enjoy a more interesting visit to Britain for less expense than if they were left to their own resources.

The U. S. National Committee for the International Geographic Union would be pleased to receive from American geographers information on the following points:

1. If you plan to attend the International Geographic Congress at Stockholm, would you prefer to visit the British Isles before that Congress?_____ or after that Congress?_____
2. Would you participate in a field trip, the duration of which is to be 4 days?_____
   1 week?_____
   10 days?_____
3. Would you be interested in a charter flight from New York to London at rates lower than those of commercial airlines if such arrangement can be negotiated? _____
4. Do you strongly prefer travel by boat?_____
5. If you have specific points of interest which you would wish to visit in the British Isles, please list them.

Geographical Excursion in Poland

The Scientific Secretary (Dr. Antoni Kuklinski) of the Institute of Geography, Polish Academy of Sciences, has expressed to the U. S. National Committee for the IGU, a hope that plans may be worked out for a group of American geographers to visit Poland in conjunction with travel to the International Geographical Congress at Stockholm. An excursion by bus would be sponsored, and partially subsidized by the Institute of Geography. About five Polish-English speaking geographers would represent major subdivisions of geography, such as physical, economic, political, etc., to serve as guides on the trip.

The proposed excursion would begin with a Seminar on the Geography of Poland for a day or two in Warsaw. The field studies could be for one or two weeks, depending upon the wishes of the group. The shorter trip would include south and west Polish areas, with stops in cities such as Poznan, Krakow and Lublin. A second week would permit an extension of the tour through Northern Poland, former East Prussian areas and Gdansk prior to the return to Warsaw.

With help from the Institute of Geography, excursion costs in Poland will not exceed $125 per week, including travel, lodging, food, and entertainment. To avoid conflict with excursions sponsored in connection with the International Geographical Congress, it would be necessary to schedule the trip to Poland to begin July 10 or after August 29.

The Association of American Geographers will help to coordinate arrangements for the tour of Poland. If you hope to participate, please answer the following questions at once in a letter to the AAG Central Office, Rm. 4, 1785 Massachusetts Ave., N.W., Washington 6, D.C.

1. Do you prefer a trip for 1 week in Poland? 2 weeks?
2. Do you prefer July 10 or August 29 as a starting date at Warsaw?
3. How many in your party besides yourself?
   Names?
4. Any particular aspects of the Geography of Poland which especially interest you?

Dear Readers:

With this issue my three-year term as your Editor of The Professional Geographer is completed. For the record, policy has established that the editorship is a nonrenewable term. As I put away my stubby red pencils, I am pensive and bowed under the great weight of my debt of gratitude, stemming both from the opportunity to serve the Association and from all the contributors who made it possible to issue the journal. I am at a loss to summon the right words to express with true sincerity my heartfelt appreciation to those who so generously submitted materials: authors of professional notes, departmental chairmen and representatives, Division Chairmen and Secretaries, Committee Chairmen, the kind people who undertook to write announcements of new publications, and so many, many others who regularly provided the materials to fill the sections of each issue. A special word must be said for Grace Fraley, who prepared the copy and on whose knowledge of format and general assistance I relied on so heavily, and for Bess Kramer of Sauls Lithograph Company, who tenderly handled the copy and more than once saved us from bloops. To list or acknowledge by name all the members to whom I am indebted would be overwhelming, but to each I say "thank you so very much."

Lest you think I suffer from a Goody Two-Shoes complex, let me add a couple mild admonitions. One sure way of ruffling editorial feathers is for a person to be kind enough to send in materials, but not be kind enough to do the whole job, preferring to send a basket full of tidbits with a note saying, "you will probably want to put this in an appropriate form for publication." The Editor, already suffering from writer's cramp, most definitely does not want this job. The other point has to do with making your Editor happy. You are a captive audience; you get this publication whether you like it or not, but your Editor wants you to like it. He needs to know that he is serving your purposes, or if he is missing the mark, he wants to know what changes are desired. Occasionally, won't each of you let the Editor know how you feel about his efforts.

To date, the new Editor has not been appointed, but I know he has a wonderful experience ahead of him and rich rewards from working with the fine members of the AAG.

---Evelyn L. Pruitt

NEWS FROM GEOGRAPHIC CENTERS

Johns Hopkins University

John C. Goodlett has joined the staff of the Isaiah Bowman Department of Geography at the Johns Hopkins University as Visiting Lecturer in Plant Geography. Dr. Goodlett has been engaged in mapping the distribution of forest vegetation in the northeastern United States as a member of the staff of the Harvard Forest at Petersham, Massachusetts. His studies have been concerned with the relation of species distribution to soils, bedrock geology, and landforms. E. F. Penrose has returned to the Department after two years at the University of Baghdad, Iraq, where he taught and engaged in research on problems of the economic development of underdeveloped lands particular in the Middle East. George F. Carter, while continuing his research on early man in America, is writing a text on human geography. M. Gordon Wolman has begun a study supported by the U. S. Geological Survey on the downstream effects of dams and diversions on alluvial channels in which an attempt is being made to analyse and summarize the experience gained by a number of Federal agencies in the last several decades. James Gordon Nelson, post graduate fellow, is conducting a field study attempting to evaluate the quantitative and qualitative differences between the characteristics and regimen of the present and Pleistocene Susquehanna Rivers.

Ohio State University

Staff changes in the Department of Geography at the Ohio State University include the following: John R. Randall promoted from Associate Professor to Professor; Robert M. Basile and Henry L. Hunker promoted from Assistant Professor to Associate Professor; leave-of-absence granted to Jack R. Villmow so he might return to Wellesley College for a year; appointment of Roland E. Chardon, a candidate for the Ph.D. degree at the University of Minnesota, as an Instructor; and the appointment of Edward C. Chapman as a Visiting Lecturer from the University of New England, Armidale, New South Wales, Australia.

Portland State College

The department is pleased to announce the addition of Assistant Professor Wayne Heiser to the staff. He has his B.A. and M.A. from Nebraska, and is completing his Ph.D. at Northwestern. He has taught in the Maryland overseas program and at Indiana University, and comes to us from the Chicago Department of City Planning. Besides Heiser, the department consists of John O. Dart, Professor and Chairman; Clarke Brooke,

Associate; Dale Courtney, Assistant, and James Ashbaugh, Assistant. James Brooks was appointed Assistant to the President of the college in August, and the department is currently searching for his replacement. W. A. Rockie, retired soil scientist-geographer, is teaching one class. Professor Montgomery of Willamette University is teaching geomorphology in the evening program. Hazel Newhouse, who usually teaches part time in the evening program, is an exchange teacher in England this year.

Portland State College, still less than five years old as a four-year school, has an enrollment of 4,000. Approximately 650 students are enrolled in geography. An additional 150 are enrolled in the evening program, which totals about 4,500. A geography major was authorized this fall, and was one of the initial group of departmental majors recognized at the college. The first students to enter graduate schools in geography were Duane Altig and Jay Vanderford, currently enrolled at Oregon State College and the University of Washington, respectively.

The department enjoyed the fellowship of Chester Cole, Fresno State College, and Alfred Mayer, Valparaiso University, Indiana, during the summer session. Ashbaugh and Courtney also taught at Portland during the summer. After summer school, the Ashbaughs flew to Mexico City for a two-week vacation, and the Courtneys left on a leisurely trip to Los Angeles. Dart taught at Central Washington College, Ellensburg; Brooke taught at Western Washington College, Bellingham, and attended the annual meeting of the African Studies Association at Boston University in September; and Brooks was associate director of a conservation workshop held in the central Cascades of Oregon.

University of Auckland

The Land Use and Resource Survey of Western Samoa begun in 1953 by the Department of Geography, University of Auckland has virtually been completed. The project was financed by grants from the New Zealand Carnegie Social Science Research Grants Committee.

Between 1953 and 1957 eight members of the Department carried out fieldwork in Western Samoa. Since then the results have been written up and maps prepared for publication. Archival research in New Zealand was continued in 1958 and 1959 and much original material was brought to light. For the first time a coherent story of the German colony in the pre-1914 period appears, and its geographical implications in terms of present-day Western Samoa may be appreciated.

The results of the project are being published in a book entitled Western Samoa: Land, Life and Agriculture in Tropical Polynesia. The book, edited by K. B. Cumberland and J. W. Fox, comprises 12 separate but related contributions, 9 of which are written by those who shared in the project. Two chapters have been contributed by workers from the new Zealand Soil Bureau and the New Zealand Geological Survey. Another chapter is contributed by a member of the Department of Geography whose fieldwork was financed by the University of Hawaii. The publication will

include chapters on: Structure, Landforms and Hydrology; Weather and Climate; Vegetation; Soils; Population and Settlement; Agriculture to Mid-Century; Village Agriculture; Plantation Agriculture; Agriculture outside the Village and Plantation Systems; A Regional View of Samoan Agriculture. The book will be published early in 1960 by Messrs A. H. & A. W. Reed of Wellington.

PERSONAL NEWS

Louis L. Ray, on leave from the U. S. Geological Survey during the academic year 1959-60, is serving as Visiting Professor of Geology at Cornell University.

Hilgard O'Reilly Sternberg, after several months in the U. S., as Visiting Professor at Indiana University, has returned to his duties as Director, Centro de Pesquisas de Geografia do Brasil, and Head, Geography Department, Universidade do Brasil, Rio de Janeiro.

Louis C. Peltier, formerly with Office of Area Development, Department of Commerce, is now Head of Regional Economics at Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo.

Jean Gottmann has recently been appointed to the newly-established research professorship at the Ecole pratique des Hautes Etudes, in the University of Paris, on the human and economic geography of the United States, and he plans to take up this new chair in April 1960 when his work on the Megalopolis Study should be completed.

Jack R. Villmow of Ohio State University, has been appointed Visiting Lecturer in geography at Clark University and at Wellesley College.

Francis E. Elliott has resigned his position as professor and head of the Department of Geography at Butler University to join the staff of the Advanced Electronics Center at Cornell University, Ithaca, N. Y.

Ruben L. Parson represents geography on the Policy Board of the newly-established Institute for Social Research, Northern Illinois University, which has as its purpose the encouragement and promotion of faculty research in social sciences and related fields.

Donald Kerr of the University of Toronto has been elected President of the Canadian Association of Geographers. He participated in the Fifth Pugwash Conference on Biological and Chemical Warfare at Pugwash, Nova Scotia in August.

Curtis M. Wilson of Hartnell College, Salinas, California, spent 8 weeks this summer on the faculty of the Sixth U. S. Army Intelligence School at Fort Ord.

H. Jesse Walker, formerly of Georgia State College, has joined the staff of the Geography Branch, Office of Naval Research, to replace Walter H. Bailey, who will be at the University of Wisconsin for a year.

THESIS TITLES

Thesis titles are published in the March and November issues of The Professional Geographer. Titles should be submitted to Leslie Hewes, University of Nebraska, Lincoln 8, Nebraska, by February 1 and October 1, respectively.

Ph.D. Dissertations Completed

Al-Khayat, Hassan "Growth of Urban Cortland." Syracuse University, May 1959. Microfilmed.

Al-Maiyah, Ali Mohammed "Analysis of the Spatial Relationships Among Agricultural Phenomena in Iraq, 1953." State University of Iowa, 1958. Microfilmed.

Barrett, Ward "Agriculture of Western Samoa." University of California, Berkeley, 1959. Microfilmed.

Bennett, Charles F., Jr. "The Procurement and Utilization of Native Animals by Three Different Culture Groups in the Republic of Panama: A Study of an Aspect of Tropical Biogeography." University of California, Los Angeles, September 1959.*

Bergmann, John F. "The Cultural Geography of Cacao in Aboriginal Middle America and Its Commercialization in Early Guatamala." University of California, Los Angeles.*

Bhatia, Shyam S. "Analysis of the Regional Agricultural Patterns of India." University of Kansas, May 1958.*

de Blij, Harm Jan "The Physiographic Provinces and Cyclic Erosion Surfaces of Swaziland." Northwestern University, August 1959.*

Chapman, John Doneric "Land Classification in British Columbia: A Review and Appraisal of the Land Utilization Research and Survey Division." University of Washington, August 1958.* Microfilmed.

Connors, Robert E. "Geographic Problem Solving Behavior of Eighth Grade Students in the Warren Beaty Junior High School." Pennsylvania State University, August 1959. /Ed.D./

Courtney, Dale Elliott "Problems Associated with Predicting Land Use in Low Latitude Humid Regions: A Case Study of the San Sebastian-Rincon Area, Puerto Rico." University of Washington, March 1959.* Microfilmed.

Crosby, John Albert "A Geographical Analysis of Seattle's Wholesale Trade Territory." University of Washington, June 1959.* Microfilmed.

Dean, W. G. "Physiography and Vegetation of the Albany Area, Northern Ontario." McGill University, 1959.*

*Available for inter-library loan

Finney, Mildred Smith "The Corn Refining Industries: A Study in Industrial Location." Northwestern University, June 1959. Microfilmed.

Floyd, Barry N. "Changing Patterns of African Land Use in Southern Rhodesia." Syracuse University, September 1959. Microfilmed.

Fuchs, Roland "Intra-Urban Variation of Residential Quality." Clark University, Summer 1958.* Microfilmed.

Gaede, Herbert Lawrence "The Development of the Water Power of the Middle Wisconsin Basin." Northwestern University, August 1959.* Published: Dissertation Abstracts.

Gault, Thomas G. "Rural Land Use in Franklin County, Tennessee." George Peabody College, August 1959.* Microfilmed. /Ed.D./

Haring, L. Lloyd "An Analysis of Spatial Aspects of Voting Behavior in Tennessee." State University of Iowa, August 1959. Microfilmed. Published: Dissertation Abstracts.

Heusinkveld, Harriet Mildred "The Historical Geography of Population in Marion, Mahaska, and Monroe Counties in Iowa." State University of Iowa, 1958. Microfilmed. Published: Dissertation Abstracts.

Hodgkins, Jordan A. "Regional Energy Potentials of Conventional Non-Renewable Energy Sources in the Soviet Union." Syracuse University, September 1959. Microfilmed.

Hussain, Farhat "Gainesville, Florida: A Geographic Study of a City in Transition." University of Florida, May 1959.*

Inaba, M. G. "Japan: Some Geographical Aspects of Industrialization Population Correlates." Columbia University, June 1959.* Microfilmed.

Innis, Donald Q. "The Human Ecology of Jamaica." University of California, Berkeley, 1958.* Microfilmed.

Johannessen, Carl "The Geography of the Savannas of Interior Honduras." University of California, Berkeley, 1959.* Microfilmed.

Kerr, Leslie W. "The Local Impact of the Downsville Dam--Pepacton Reservoir." Syracuse University, June 1959. Microfilmed.

Kirchherr, Eugene Carl "Airport Land Use in the Chicago Metropolitan Area: A Study of the Historical Development, Characteristics, and Special Problems of a Land Use Type Within a Metropolitan Area." Northwestern University, June 1959.* Published: Dissertation Abstracts.

Krueger, Ralph Ray "Changing Land-Use Patterns in the Niagara Fruit Belt." Indiana University, November 1958.*

Latham, James P. "The Distance Relations and Some Other Characteristics of Cropland Areas in Pennsylvania: An Experiment in Methodology for Empirically Analyzing, Regionalizing and Describing Complexly-Distributed Areal Phenomena." University of Pennsylvania, February 1959.* Published: NR 389-055 Tech. Report No. 4, Office of Naval Research, Geography Branch; Dissertation Abstracts.

Marble, Duane Francis "Transport Inputs at Urban Residential Sites: Study in the Transportation Geography of Urban Areas." University of Washington, June 1959.* Microfilmed.

*Available for inter-library loan

March, Andrew L. "Studies in the Location of Iron-and-Steel and Machine-Building Industries, Mainland China, 1953-1957." Syracuse University, July 1959. Microfilmed.

McDermott, George Louis "Frontier Settlement in the Great Canadian Clay Belt." University of Wisconsin, 1959. Microfilmed.

Megee, Mary C. "Monterrey, Mexico: Internal Patterns and External Relations." University of Chicago, 1958.* Published: Univ. of Chicago Res. Ser., Research Paper No. 59. 1958.

Mikesell, Marvin "The Northern Zone of Morocco: A Study of Rural Settlement and Its Effect on the Land." University of California, Berkeley, 1959.* Microfilmed.

Monahan, R. L. "The Development of Settlement in the Fairbanks Area, Alaska: A Study of Permanence." McGill University, 1959.*

Muller, Robert A. "Some Economic Consequences of Deep Snowfalls in Northern New York." Syracuse University, April 1959. Microfilmed.

Muntz, Philip "Historical Geography of the New Jersey Woodland." University of Wisconsin, May 1959. Microfilmed.

Nejim, Hassan T. "Agriculture in Iraq: Problems and Prospects." Syracuse University, 1959. Microfilmed.

Patterson, James E. "The Industrial Potential of the Champaign-Urbana Area." University of Illinois, October 1958.*

Pennington, Campbell "The Material Culture of the Tarahumar and Their Environment." University of California, Berkeley, 1959.* Microfilmed.

Perle, Eugene D. "The Adequacy of Public Recreation for the Residents of Two Sections of Syracuse, New York." Syracuse University, March 1959. Microfilmed.

Ross, Mildred "Some Basic Geographic Concepts to which Elementary Students can Relate Subsequent Knowledge." Pennsylvania State University, August 1959. /Ed.D./

Shideler, William Watson "A Geographic Analysis of the Ohio Road System." Ohio State University, June 1959.* Microfilmed.

Snyder, David E. "Urban Places and Passenger Transportation in Uruguay." Northwestern University, August 1959.*

Street, John M. "Historical and Economic Geography of the Southwest Peninsula of Haiti." University of California, Berkeley, 1959.* Microfilmed.

Thomas, Frank H. "The Denver and Rio Grande Western Railroad: A Geographic Analysis." Northwestern University, September 1959.* Microfilmed. Published: Northwestern Univ. Res. Ser. in Geog. No. 4.

Tosi, Joseph "Forest Land Utilization in Western Puerto Rico." Clark University, May 1959.* Microfilmed.

Westerman, Harland "An Analysis of the Nonbasic Industrial Development Potential of Fairfax County, Virginia." Clark University, 1959.* Microfilmed.

Yusuf, Kaniz "Economic and Political Cooperation of Pakistan, Iran and Afghanistan." Clark University, May 1959.* Microfilmed.

*Available for inter-library loan

Ph.D. Dissertations in Process

Ahsan, Syed Reza "East Indians in the Caribbean: A Study in Cultural Geography." University of Florida.

Bergen, John V. "Population Geography of Small Towns in the North Central States." Indiana University.

Bushong, Allen David "British Honduras: A Geographic Interpretation of its Development." University of Florida.

Christman, Gene "The Historical Ecology of Big Game in California." University of California, Berkeley.

Church, Martha Eleanor "Areal Aspects of Electric Power Production in the Commonwealth of Massachusetts." University of Chicago.

Clarke, William "Cultural Geography of Dominica." University of California, Berkeley.

Coffin, Harry "Summer Time Penetration of Marine Air into Interior Southern California." University of California, Berkeley.

Draine, Edwin H. "Import Traffic of the Chicago Hinterland." University of Chicago.

Edwards, Clinton "Aboriginal Sailing Rafts of the West Coast of South America." University of California, Berkeley.

Enman, John A. "The Relationship of Coal Mining and Coke Making to the Distribution of Populated Centers in the Connellsville Coke Region." University of Pittsburgh.

Hambuechen, Walter H. "Biogeography of Introduced Foraging Animals in Polynesia (Marquesas, Society, Cook & Austral)." University of California, Berkeley.

Haratani, James "Freshwater Fish Culture in Northeast India." University of California, Berkeley.

Hegen, Edmund Eduard "River Transportation in Eastern Peru." University of Florida.

Hudson, James "Water-use Efficiency in Irrigation." University of Chicago.

Johnson, Lane "Capabilities of Independence among Communities within the Standard Metropolitan Area of Boston." Clark University.

Larson, Sara C. "Population Changes in Rural Finney County, Kansas, 1930-1958: A Geographic Study." University of Nebraska.

Layton, Robert "Urban Land Use in the Utah Valley." Syracuse University.

Lovingood, Paul Evans, Jr. "Agricultural Land Use in the Asheville Basin, North Carolina." University of North Carolina.

MacFarlane, Sidney K. "Structure, Trends and Problems of Manufacturing in the Utica Area." Syracuse University.

Malik, Jahan Ara "Ingham County: A Study in Historical Geography." Michigan State University.

McClellan, John B. "Areal Variations in the Degree of Acculturation with Respect to Selected Population Characteristics of French Canadians in Eastern Ontario." Syracuse University.

Merrens, Harry Roy "The Changing Geography of North Carolina in the Mid-Eighteenth Century." University of Wisconsin.

Minkel, Clarence W. "The Spread of Industry in the Valencia Basin of Venezuela." Syracuse University.

Nowotny, Franz "Recent Economic Development in Guatemala." University of Florida.

Pederson, Lee "Geography of Norte Chico Mining District (Chile)." University of California, Berkeley.

Rowan, James Elmer "Agricultural Land Utilization in the Llano Estacado of Eastern New Mexico and Western Texas." University of Nebraska.

Sabbagh, Michael E. "Climatology of the Antarctic." University of Wisconsin.

Sager, Neil Anthony "Ports of Tampa Bay: Geographic Interpretation." University of Florida.

Sands, Richard D. "Dynamic Factors in the Precipitation Pattern of Mexico." Clark University.

Sandy, I. Made "A Contribution to the Study of the Rainfall of Java." Clark University.

Schultz, Gerald W. "A Study of Urban Settlements in Turkey." Clark University.

Senanarong, Sawat "A Geography of Northeast Thailand." Indiana University.

Silvernail, Richard George "Agricultural Land Use in the Western Finger Lakes Region of New York State." University of North Carolina.

Smole, William J. "Ecological Organization of Small-holder Settlement in Ibero-America." University of Chicago.

Stafford, Howard A. "An Analysis of Grocery Store Locations in Des Moines, 1958." State University of Iowa.

Stillwell, H. Daniel "Itatiaia National Park: A Study of Mountain Geography in Brazil." Michigan State University.

Thompson, William F. "The Regional Morphological Character of New England Mountains." Clark University.

Urquhart, Alvin "Cultural Geography of Southwest Angola." University of California, Berkeley.

Vermeer, Donald "Relations of Climatic Conditions to the Diets of Tropical People." University of California, Berkeley.

Winter, Lewis J. "Conflicts in Land Use Control Along Political Boundaries within the State of Rhode Island." Clark University.

Wolf, Lawrence G. "Distribution of Population in Ohio." Syracuse University.

Masters' Theses Completed

Allington, Kathleen Rosemary "The Bogs of Central Labrador-Ungava: An Examination of Their Physical Characteristics." McGill University, 1959. /M.Sc./

Avila, Nidia "Town of Oxford." Clark University, June 1959.

Barry, R. "A Synoptic Climatology for Labrador-Ungava." McGill University, 1959. /M.Sc./

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LETTERS . . . . .

Dear Editor:

Reference is made to "Some Comments on Stone Lines - A Reply" by Woodruff and Parizek in the September issue of The Professional Geographer. The occurrence of lines, layers, lenses, or strata of obviously stream-washed material within mixed and generally unstratified alluvium, especially those appearing in cuts made in a broad fan deposit is very widespread. A trained field man should have no trouble identifying these in many parts of the country. Certainly it is that these are found extensively in the Southern Rockies and are readily identified by the generally rounded nature of the individual pebbles and cobbles and the mixture with angular rock types.

On the other hand, superficially similar lines of rock fragments which are found extensively in areas of a granitic type of rock should not be confused with the former type of line. These latter types have been observed in the field in the Middle and Southern Rockies, in the southern Piedmont and in fact many places where fairly easily weathered granitic intrusions are in evidence. Those found in the Southern Rockies are quickly identified as remnants of more resistant and sturdy intrusive rock intruded into somewhat softer granites. Most notably this occurs in the Tarryall Granite and within fairly late granitic intrusions into the Idaho Springs formation. In this locality they are readily identified and there is very little doubt that they represent angular remnants of thin sheets or sills intruded into granitic rock which has since weathered down, leaving rather thin lenses or sheets of angular remnants.

Careful observations of all identifiable sites mentioned in the quoted article together with similar observations in many similar counties in the Piedmont, bear out the fact that there are two distinguishable types of "stone lines", the one being of the former type of alluvium, and the other

being of the latter type of intrusion. While the individual occurrence in parts of the Piedmont may be somewhat questionable, and thus leads to certain amount of mystery, comparative study with many similar areas seems to bear out the contention that these are intrusive remnants.

It should be pointed out that this distinction was mentioned at the time the paper was read in Santa Monica and also in later correspondence. Thus far I have seen no reason to change my opinion of this distinction of the types of phenomena. In fact, extensive study, not limited to just Clarke County of the Southern Piedmont, but including some half-dozen regions, tends to further confirm the fact that there is a recognizable difference in these two occurrences.

Finally, it should be noted that only when the distinction is made between these two rather obviously different phenomena is it possible adequately to explain their occurrence. Any attempt to explain the occurrence of both of them together leads to considerable and obvious confusion, the clarification of which apparently is not welcome.

---Clark N. Crain
University of Denver

Dear Editor:

A contemporary illustration of the age-old custom of sending one's political opponents off into an area of geographic isolation has recently come to my attention. Lessons from the past have apparently gone unlearned.

As a result of the declaration of emergency in the Federation of Rhodesia and Nyasaland, a large number of Africans were arrested and have remained under detention to this day. A Review Tribunal has been engaged in examining the record of each detainee with the result that several former members of the African National Congress have been released from detention but confined to a restricted area in a remote part of Southern Rhodesia.

An area of some 280 square miles of scrub woodland with infertile sandy soils and an unreliable 20" to 24" annual rainfall has been set aside for the political detainees, located in Gokwe Native District in the Midlands Province, about 150 miles west of the capital city of Salisbury. 600 acres of selected "arable" land have been cleared of natural vegetation and demarcated, each detainee receiving an individual allocation of about 10 acres. A few boreholes have been sunk and a small school and clinic are being put up. The restricted Africans are to be allowed to have their families with them, also their own cattle. Arrangements have been made to feed the detainees until they can grow their own crops.

By early September of this year, the total number of Africans who had been "rusticated" with their families to the special area near Gokwe amounted to 23. The Prime Minister, Sir Edgar Whitehead, is satisfied that those who genuinely wish to rehabilitate themselves can make an extremely good living in the place to which they have been sent, and should be able to support themselves without difficulty.

The present writer is quite unable to share the optimism of the Prime Minister. Much of the country around Gokwe is entirely unfit for crop agriculture and should never be put to the plow. The gusu sand soils are more suited as a building material than for the support of domesticated plants. The Middle Veld situation of the restricted area, on the Mafungabusi Plateau, implies rugged landforms and a difficult terrain for agriculture. Climatic considerations also militate against successful farming.

Many of the detainees are detribalized Africans, familiar with the new urban environments of the Federation and trained to undertake semi-skilled industrial work. A return to simple subsistence agriculture will entail both economic and cultural hardships. Their grievances and discontent can only fester and intensify under this scheme to isolate them from the rest of the country. It is strongly hoped that a more realistic and humanitarian solution may be sought to this political problem; otherwise, the promises of "partnership" can never be realized.

---Barry N. Floyd
Dartmouth College

Dear Editor:

I was most interested in reading the comments by Professor J. W. Alexander in The Professional Geographer on the desirability of finding a name for the field of Geography which is more appropriate. He suggests the name Regional Science. As you may know, we have established at the University of Pennsylvania a Department of Regional Science which offers the Ph.D. degree in regional science. I think it would be very useful for your readers to know of this in order that they may better evaluate Alexander's suggestions. I am therefore enclosing a statement on the program which you may desire to publish with or without this letter. /The length of the description of the regional science program precludes its publication here. Editor/

I also think that your readers ought to know that a Journal of Regional Science is published irregularly by the Regional Science Research Institute, that there is a Regional Science Association which has 1,200 to 1,300 members, and that the association publishes an annual volume of Papers and Proceedings which comprises the various papers presented at its annual meetings. (Membership in the association is open to all who are willing to pay three dollars annual dues.) Finally, your readers ought to know that a Regional Science Studies series is published jointly by the Technology Press (M. I. T.) and John Wiley and Co., the fourth volume in the series already being in press. If you or any members of the Association of American Geographers wish further information on the field of Regional Science as it is developing, we would be glad to furnish such.

---Walter Isard, Chairman
Department of Regional Science
University of Pennsylvania

NEW PUBLICATIONS

Perspective on the Nature of Geography. Richard Hartshorne. AAG Monograph Series. Rand McNally & Co. Chicago. 1959. 201 pp. $5.00.

How often has it been said that when two geographers meet they invariably argue about the definition of geography. Although this situation of sensitivity is unlikely to change soon, a reader of the AAG Monograph Series No. 1 will be in a strengthened position to conduct the argument, for in it Dr. Hartshorne presents a reconsideration of The Nature of Geography in light of 20 years of continued study since that volume first appeared. But even if the daily lives of most geographers are concerned with things other than the contemplation of the scope and meaning of geography, they cannot afford the luxury of a lack of philosophy, or only a foggy impression of the objectives of their field and its objects and methods of study, if the knowledge gained through their research is to provide useable building blocks upon which more advanced research can be based. This latest contribution of Richard Hartshorne provides much to stimulate the mind of the serious geographer, to aid him in deepening his insight of the meaning of his field, to clarify and refine his understanding, and to comfort him in times of scientific introspection. This and more is accomplished in this highly readable, scholarly, uncluttered assessment of geography, constructed from the works geographers have produced and their views of those works. Throughout there is a rewarding element of reality, for this is not a philosophical discussion of what geography should be, but rather, what it is, as demonstrated by its products and practitioners. Nor is it a guide to gaining social acceptance among physicists and chemists, but the place of geography among sciences and its relations to other sciences are discussed. The author states and continually exhibits that his purpose is not to impose a definition of geography, rather he aims at finding among the works of geographers the areas of common agreement on the scope and functions of the field. It is to be expected that some readers will differ, at least in part, with the author, but his purpose will be served if, in differing, they are caused to focus also on the areas of agreement and to sharpen their views.

There can be no doubt that both American geographers and their foreign colleagues will welcome this volume, and consider it a milestone in methodology. The Association of American Geographers and the Rand McNally Company can be enormously proud to have launched the Monograph Series with such an impressive work.

The Statesman's Year-Book 1959. Ed. S. H. Steinberg. St Martin's Press Inc. New York. 1959. xxvi and 1673 pp. illust. $9.50.

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into this little book. And, as important, the information is easily extracted from the book, for its organization is straight forward and simple. Part one deals with international organizations, part two covers the British Commonwealth and Empire, part three includes the states and territories of the United States, and part four concerns all other countries. All parts are arranged alphabetically, and, in general, for each country information is included on history, government, area and population, religion, education, health, finance, justice, production, commerce, communications, money and banking. Needless to say, this book is a boon to students, teachers and all others who wish to keep informed on the political parts and pieces of the world.

Microclimatic and Vegetational Studies in a Cold-Wet Deciduous Forest. Philip Ross. Black Rock Forest Papers No. 24. Harvard Black Rock Forest. Cornwall-on-the-Hudson. New York. 1958. ix and 89 pp. illust.

Black Rock Forest is a large, hilly experimental forest tract in Orange County, New York. Since 1950 it has been under the administration of Harvard University. In April 1956, Mr. Philip Ross began a 16-month study of the microclimate of the Forest, with support from the Quartermaster Corps. The Forest lies in an area where the incidence of cold wet conditions exceeds 20% between October and April, and the study was designed as an example of such conditions, i.e., its origins were comparative. Emphasis was laid on the vertical stratification of temperature, on relative humidity and on precipitation. Ten stations were installed, measurements of soil temperatures and moisture conditions being taken at the same site.

Much of the report is taken up with the objective presentation of results, and with a description, primarily floristic, of the vegetation types. Mr. Ross' conclusions are of an ad hoc sort, referring very narrowly to the sites occupied. No attempt is made to generalize from them, and the reader emerges with the renewed feeling that microclimatology still belongs in the realm of specialized local studies, obdurately resisting any attempt to give it a more catholic interest. Within this narrow frame, Mr. Ross has done very well.

---F. Kenneth Hare

Urban Problems and Techniques, Number 1. Ed. Perry L. Norton. Chandler-Davis Publishing Co. Lexington, Massachusetts. 1959. 249 pp. $4.50.

This volume is the first in a series which the publishers and editor plan to issue. The subtitle, "A Forum on Technical Problems in an Expanding Urban Society," indicates briefly the nature of the work. Its objective is made somewhat clearer by the editor's comment: "This series is introduced to provide an outlet for the sharing of progress in the understanding and articulation of problems and in the development of techniques."

There are 12 miscellaneous essays by as many different authors, one geographer among them, covering a variety of aspects of the field of

Urbanistics. Most of the material has appeared elsewhere although not in identical form and except for the fact that the subject matter pertains largely to planning, the respective chapters are unrelated. For most geographers, there is little of interest in this book. For geographers who have a special interest in urban problems and have not already read in the fields represented, a reading of these essays not only may yield some ideas but may be useful in pointing out significant non-geographic aspects of urban problems. An understanding of the latter can serve to prevent geographers from arriving at unwarranted geographic conclusions. Among the subjects considered, which might attract the general geographer, are, the delineation of the Central Business District, the relation between smog and zoning, zoning based upon "Performance Standards" of industries, Greenbelts, and Recreation.

---Eugene Van Cleef

Statistisk Sentralbyra, Bosettningkart over Norge (Settlement Map of Norway), 1/400,000, one index-legend sheet and 15 map sheets (each about 18 by 24 inches), Oslo, 1955, 35 N.Kr. (about $5) folded in 9½-by-12½-inch packet with cover.

Scandinavia continues to maintain its reputation as one of the centers of population mapping with the publication of these new Norwegian maps. They are long awaited; the only previous coverage of the whole country was on Alfred Soderlund's 1/1,000,000 population dot maps published in 1923. The new set, produced at the government's Central Statistical Bureau, makes use of the national census data of December 1, 1950, the Norwegian Geographical Survey topographic sheets, and all other statistical, cartographic, and documentary material available in the country.

Five major subjects are distinguished by color, and the details of each are shown symbolically. (1) Boundaries and place names are in dark brown colors. National, county, minor civil division, and city boundaries are shown. Varying size and type face are used for place names and spot heights (in meters). (2) Communications are mapped with red symbols and show roads, railroads in operation, railroad ferries, and boat and ferry routes. Railroads under construction are not shown, such as the main line north of Lonnsdal (open to Saltdal Station in 1956 and to Fauske in December 1958) and the westward extension of the Sulitjelma railroad (also open to Fauske in December 1958). (3) Heights of areas are indicated by cream, buff, and light tan colors with the divisions at elevations of 200 and 500 meters above sea level. (4) Black is used for the population. For the dispersed settlement and smaller agglomerations a dot is used for 25 people (± 12), a triangle for 100 and a square for 200; dots are combined with a triangle or square to indicate populations between 100 and 300 to the nearest 25. Larger agglomerations and cities have their numbers shown by proportionally-sized (in volume) solid black circles. (5) Water bodies and glaciers are in light blue, but depths of water are not designated.

The maps are very accurate and quite complete. Field checks in both remote and very accessible areas all over Norway revealed no significant

errors or omissions in placement or size of the symbols. On the contrary, one is likely to admire such a presentation of 3,278,000 people in an area so great and with such varying degrees of accessibility. The cartographic planning and execution have resulted in symbols easily read and population distribution patterns which may be readily located and distinguished. These maps are a boon to the teaching and understanding of the geography of Norway, and they make a powerful tool for much additional research on Norwegian population distribution.

---Kirk H. Stone

Mapa General de Cuba. Edited by P. Fernandez y Cia. American Map Co., Inc. New York.

If you are experiencing difficulty in locating all the Cuban place names appearing in the news, this new map may be of help. At a scale of approximately 1:750,000, the map in vivid color shows major topographic features, four classes of towns, several categories of roads, railroads, and cabotage routes.

Water for the Future. John R. Stockton, Stanley A. Arbingast, Richard C. Henshaw, Jr., and Alfred G. Dale. Bureau of Business Research. University of Texas. Austin. 1959. $5.00 a set.

This four volume work, prepared under a contract with the U.S. Bureau of Reclamation, is an analysis and assessment of the water needs projected to the year 2010 of the Texas Gulf Basin, that is, the 97 counties east of the Balcones Escarpment and south of the Red River Basin. The results of this ambitious undertaking, and the methods used are reported in detail, and abundantly illustrated with maps, charts, and tables. Volume One (xiv and 126 pp.), Resources of the Texas Gulf Basin, provides general economic and geographic information on current conditions, as background and a starting point for the next three volumes. The future growth and development of the natural and human resources of the Basin are projected in volumes two and three. Volume Two (xiii and 113 pp.), Economic Potential of the Texas Gulf Basin, considers the economic future of the Basin's population, agriculture, mineral exploitation, and manufacturing in terms of their relation to the national and regional trends and patterns. In Volume Three (2 parts, xv and 366 pp.), Trading Areas of the Texas Gulf Basin, the details of future development are described for 16 trading areas, the unit of analysis used throughout this study. The expected growth and its implications are described for agriculture, mining, manufacturing, services, employment and population for each trading area. Current water requirements and projected water needs (excluding irrigation) for the forecasted economic developments in the 16 trading areas are given in Volume Four (x and 111 pp.), Water Requirements of the Texas Gulf Basin.

An impressive amount of useful basic data is included in this study, although some readers may quarrel with some of the basic assumptions on which the forecast is made, e.g., that cheap water will be abundantly available. Nevertheless, this work is certainly a contribution to our understanding of water uses and needs, subjects that have important bearing on the productive potential of the nation.

America's Natural Resources. Ed. Charles H. Callison. Ronald Press. New York. 1957. xi and 211 pp. $4.00.

In this book, one of several books prepared recently for the Natural Resources Council of America, 13 well-informed conservationists discuss the various aspects of natural resource use and development in interesting and clearly intelligible language. Each author presents a brief historical background of the particular resource assigned to him before illustrating its interdependence with other resources in laying the foundation of the economic and social life of America.

Resource utilization is fraught with dangerous and irresponsible practices which may decimate our nation's storehouse of wealth unless positive coordinated steps are adopted by Federal, State, and local governments and private landowners. A constant and authoritative educational program must be sustained to convince the public of the advisability of pursuing a wise policy of using America's natural resources. Among other points, the book urges the Federal government to carry out sound programs on its own lands, to furnish examples of good management.

America's Natural Resources should have particular value in high school and college courses designed to develop the broad concepts of sound conservation policies.

---J. L. Taylor

Everyday Meteorology. A. Austin Miller & M. Parry. Philosophical Library, Inc. New York. 1959. 270 pp. illust. $7.50.

The objective of this well-illustrated, easily read book is "to put the reader in a position to appreciate the potentialities of the general situation and to judge for himself, from an understanding of the effect of local weather-generating factors, what is likely to happen to him and how likely it is to happen." This the authors achieve very nicely in their straightforward presentation of the world-wide and local causes of weather, written in terms that are meaningful to non-specialists, amateur observers, and the disenchanted man in the street who has just been drenched by a shower not specifically predicted by the "Met. Office." After briefly noting how weather data are gathered and used, radiation, heat balance, and atmospheric moisture are described with an explanation of their role as weather producers. These general principles are then refined and related to air masses in the discussion of the characteristics of air masses, how the characteristics are acquired and modified, and how air masses are identified and classified. This is followed by a look at what happens between air masses, and an explanation of why air masses move, in terms of pressure patterns and general atmospheric circulation. The next step in this logically arranged book is to describe what happens to air masses and what weather is produced in specific geographic environments, starting with 11 broad world zones and types and proceeding to localities with their local influences on the weather. The book concludes with some helpful advice on how to apply this general meteorological understanding in learning to live with the weather even in its more destructive moods, and in putting the weather to good use.

Geography of the Soviet Union: Electric Power. IV-B. Victor P. Petrov. V. P. Kamkin, Inc. Washington, D. C. 1959. ii and 72 pp. illust.

The continuing and growing interest in the Soviet Union makes the appearance of this information-filled monograph a welcome event, for it should prove useful to students, teachers, and all others concerned with the economic status and potentialities of the U.S.S.R. This monograph is one of a planned series to cover various aspects of Soviet geography, including such topics as agriculture, industry, energy resources, population, and transportation.

Electric Power describes in detail the plans, construction, and uses of each of the numerous, large hydroelectric plants in European U.S.S.R., Siberia, Central Asia and Far East. The production of electricity using other sources of power, such as coal, oil, and other fuels, and solar and atomic power, are also described. Soviet achievements and plans in the field of electric power production are given careful attention, as are the industrial and agricultural benefits accruing from this construction program. Most of the information used by the author comes from the Soviet press. Each chapter has a list of references, and a short bibliography is included at the end of the booklet, but a reading knowledge of Russian is required for its use.

Thailand--An Outline. Edwin F. Stanton. World Study Center, State University Teachers College, New Paltz. New York. 1959. 20 pp. illust. $0.25.

This is the first of a series of World Center Study Reports that will be issued to provide background information on countries and international problems in a brief, easy-to-read form designed especially for teachers and students.

The author of Thailand brings to his work knowledge gained during his 7 years as U. S. Minister and later Ambassador to this "long handled frying pan" shaped country. The outline has 5 main headings: geography, history, trade and commerce, culture and customs, and selected bibliography. Happily for the reader, the annotations under these routine headings are far from sterile; they are filled with intimate little notes that provide a real insight into the way of life in Thailand.

An Economic Geography of East Pakistan. Nafis Ahmad. Oxford University Press. New York. 1958. xiv and 361 pp. illust. $8.00.

East Pakistan has long been regarded as simply a producer of raw materials and has attracted little or no interest otherwise, with the result that this well-watered, fertile, alluvial plain lags behind even in its agricultural pursuits, to say nothing of its industrial development which is still far from making effective use of such resources as exist. The author feels that many of the reasons for this lie in the past, so his approach to the modern economic geography is by way of history.

After providing the physical setting of East Pakistan, with special emphasis on the rivers, and showing the ways in which physical factors

importantly influence agriculture. The author traces the history of land-use, introduction of crops, handicraft, and commerce from the ancient through the 19th century times. Having established the historical framework of changes, adjustments to foreign market demands, and the return to a pure agrarian economy after the collapse of the textile and other handicraft industries, the present-day economic geography is then inspected. The distribution, production and trends of the two leading crops, rice (mainly a home-consumed crop) and jute (an export crop) are described in detail, with briefer attention being given to other cash crops, such as tea, tobacco and sugar cane, and to forest resources. The position of industry in the economy is then examined, as are the patterns of transportation and trade. Before having a look at the future, an assessment is made of the complicating problem of population, particularly its growth and distribution.

Numerous maps and charts appear throughout this very readable book, which provides not only an account of the geographical and economic conditions, but also a feeling for the personality of the country.

Historical Atlas and Gazetteer. A Study of History, Volume XI. Arnold J. Toynbee & Edward D. Myers. Oxford University Press. New York. 1959. x and 257 pp. $12.50.

A primary purpose of this volume is to illustrate the well known A Study of History by giving information on places and place names mentioned in earlier volumes. This purpose undoubtedly influenced the book's arrangement, which opens with a lengthy gazetteer that very, very briefly identifies the places and references their occurrence in the texts of the other volumes. Part Two consists of 114 pages of maps, mainly in black and white, with an occasional use of a sepia overprint. The maps are divided into five groups: general, overall views of civilizations and religions; each of three classes of Old World civilizations; and civilizations of the New World. The maps are interesting, informative, and provocative, although one might wish they had been more skillfully executed. Certainly they contain much that is useful to the geographer, not only because of the presentation of distributional and locational information, but also because of the tracing of paths of thrusts, invasions, and spreads of civilizations and religions, all of which tend to leave their marks on the landscape. All of the maps have a grid identification to assist in the use of the index to all place names appearing in the atlas.

New Viewpoints in Geography. Preston E. James, Ed. 29th Yearbook, National Council for the Social Studies. 1201 16th St., N.W., Washington 6, D.C. 1959. xi and 260 pp. illust. $4.00, paperbound; $5.00, clothbound.

Fifteen geographers have combined their talents to present up-to-date information on the content and purpose of geography, and on ways of assisting elementary and secondary school teachers of social science. Although the book is written primarily for the non-professional geogra-

pher, it has much to offer geographers, especially its review of current research activities in the various fields of the discipline. Preston James sets the framework by describing both the place of geography in the classroom, and geography's concepts and methods. Present thinking in physical, human, economic, and regional geography are then discussed respectively by C. P. Patton, J. O. M. Broek, W. Warntz, and R. N. Pearson, followed by a chapter on cartography and maps by E. B. Espenshade, Jr. Part Two turns its attention to the teaching of geography in chapters by G. Whipple, P. Bacon, P. E. James, M. L. Anderzhon and H. R. Newhouse, C. B. Odell, L. Kennamer, Jr., F. E. Sorenson, C. F. Kohn, and C. D. Harris.

Man In Malaya. B. W. Holler. University of London Press Ltd. London. 1959. 144 pp. illust. 12/6 net.

With insight and sympathetic understanding, products of extensive travel and fieldwork in the peninsula, the author presents a detailed and informative account of Malaya, in terms of the people who live there. The setting is described, landforms, vegetation, rivers, geology, soils, and climate, always with the view of man in the landscape. The chronology of settlement is sketched; the various immigrant groups, and the cultural contacts with Indians, Chinese, and Europeans; which lead to the present distribution and composition of the population. These events are also tied to the general economic life of Malaya, with the early emphasis on trade and commerce, and later on production of tin, rubber, and rice. The way people live in the country and in the cities is then examined. The final chapter of Part One is concerned with the problems and implications of plural society--Indian, Malayan, and Chinese. Part Two focuses on man's interactions with his surroundings, his mental and physical energy under conditions of humid tropics, his problems of water for agriculture and drinking, what is happening to his soils as a result of erosion and flooding, and his general health conditions in the face of diseases and eating habits. Hopes and measures for improvement are briefly noted. A selected bibliography is included for each chapter.

The Location of the Synthetic-fiber Industry, A Case Study in Regional Analysis. Joseph Airov. Technology Press of the Massachusetts Institute of Technology, Cambridge. John Wiley & Sons, New York, 1959 (in the Regional Science Studies Series). Also a Social Science Research Center Study, College of Social Sciences, University of Puerto Rico. xii and 203 pp. illust. $9.75.

In this book "synthetic-fibers" refers to five fibers manufactured from synthetic polymers: nylon 66, Acrilan, Orlon, dynel, and Dacron. In the United States, the hydrocarbon and chemical raw materials of the synthetic-fiber industry are effectively limited to the Texas-Gulf Coast area and the West Virginia area; markets are in the textile manufacturing areas of New England, the Middle Atlantic, and the South. Manufacturing is done in two stages: raw materials are transformed into chemical intermediates, intermediates are then transformed into fibers.

Airov estimates investment requirements through 1975 and evaluates alternate location choices for that investment. Investment in production of raw materials requires locational choices between producing areas. Investments in chemical intermediate and synthetic-fiber production require choices between raw material and market regions. Also, Puerto Rico is considered a possible alternate site for synthetic-fiber production. Lowest cost for chemical intermediate production is in raw material producing regions. Airov estimates that from 70 to 85 per cent of new intermediate capacity will be located in the Texas-Gulf Coast area and the remainder in the West Virginia region. The exception is the production of nylon salts, half of which will be produced in the textile producing region of the South. Synthetic fiber production finds its lowest cost in the market regions and Puerto Rico. Airov estimates that capacity in 1975 will be roughly three times current productive capacity.

Introductory materials in the book include a chapter high-lighting the finding of the study, a brief history of the development of synthetic fibers, and a discussion of the theoretical basis of the analysis. Technical descriptions of production functions and agglomeration economies are presented for both chemical intermediates and synthetic fibers. These materials furnish the basis for the detailed cost analyses. There are many unfamiliar terms in the technical language of synthetic fiber production and many chemical processes and costs are industry secrets. In spite of these handicaps, Airov has made an incisive analysis of location possibilities in the industry which demonstrates the cutting power of modern locational analysis.

---William L. Garrison

General Meteorology. 3rd Ed. Horace R. Byers. McGraw-Hill Book Company. New York. 1959. x and 540 pp. illust. $9.50.

This revised and up-to-date edition of Dr. Byers's familiar book will be welcomed by geographers and meteorologists. The general format follows that of the 1944 edition, starting with solar radiation and progressing from upper air conditions and processes through air movement, general circulation, analysis of cyclones and air masses, to examination of the aspects of weather: in other words, from the parts to the whole. The major changes have to do with inclusion of new concepts and knowledge, such as jet stream and cloud physics, wider application of laws of hydrodynamics, and other new scientific results of the intense research being conducted in meteorology.

Man's Journey Through Time. L. S. Palmer. Philosophical Library, Inc. New York. 1959. xv and 184 pp. illust.

The subtitle, "A first step in Physical and Cultural Anthropochronology," explains the purpose and content of the book, which is a fascinating experiment in measuring man's development. Two aspects of development, anatomical and cultural, are considered. The four anatomical indexes are skull measurements indicating erectness, brain size and articulate speech ability. Measurements from 24 prehistoric skeletons are

assigned percentage values, 100% being modern, male, adult European. The four cultural indexes: numbers of materials used, numbers of occupations, speed of movement by mechanical means, and complexity of object and degree of knowledge needed to produce it (100 is a supersonic jet plane); are measured for 8 different periods. Values for the 8 indexes are plotted against known time. The resulting curves, depicting the rates of change in man's development, are anlayzed separately and together as to their implications and limitations. The reader will certainly find ample food for thought in both the experiment and the conclusions that are fully described in this well-written, well-illustrated book.

Anglo-America: A Regional Geography. Earl B. Shaw. John Wiley & Sons, Inc. New York. 1959. vi and 480 pp. illust. $7.75.

Anglo-America is divided by the author into 12 regions and a number of subregions. Each is described as to its location, boundaries, surface features, climate, soils, vegetation, population, resources, landuse, industry, commerce, and transportation. In some cases, comparisons are made with other regions. The book opens with general background information on North America as a whole, and a chapter on Greenland, which because of its relative simplicity is considered a good entering point to the understanding of more complex regions. Each chapter and the book itself closes with a brief look at the future. Maps, pictures and graphs are liberally used, and short bibliographies accompany each chapter.

Proceedings of IGU Regional Conference in Japan 1957. Organizing Committee of IGU Regional Conference in Japan and the Science Council of Japan. Tokyo. 1959. vii and 606 pp. illust.

The Organizing Committee and the Science Council of Japan can be justly proud of this fine volume which covers the addresses, cartographic exhibits, excursions and papers of the IGU Regional Conference held in Tokyo and Nara August 28 to September 3, 1957. The well-illustrated papers are arranged into three groups; physical geography (38 papers), human geography (66 papers), and cartography (6 papers). In addition, records of the 9 papers and discussions in the Symposium on the Geography of Southeast Asia are included, along with the lectures on "The Scope of Applied Geography" by L. Dudley Stamp, and "Brown, Green, White and Black" by George B. Cressey. Needless to say, this volume is rich in information of great value to all geographers, and in particular to students of Japan and other parts of Southeast Asia.

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Positive copies of the microfilm may be purchased for $5.00, including postage, from the Photoduplication Service, Library of Congress, Washington 25, D. C.

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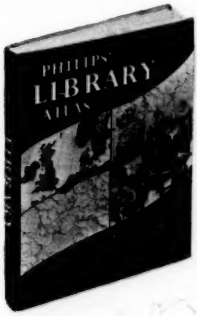

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